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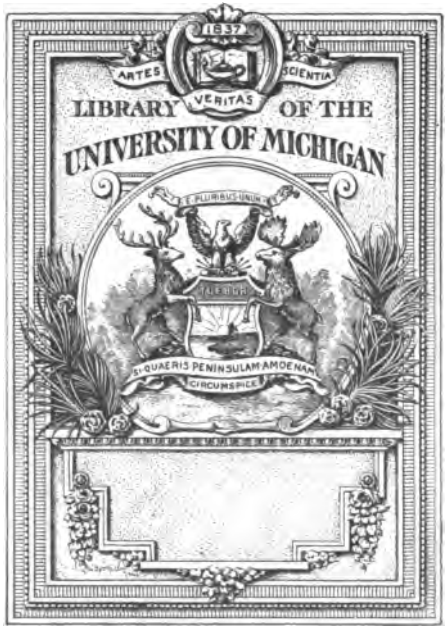
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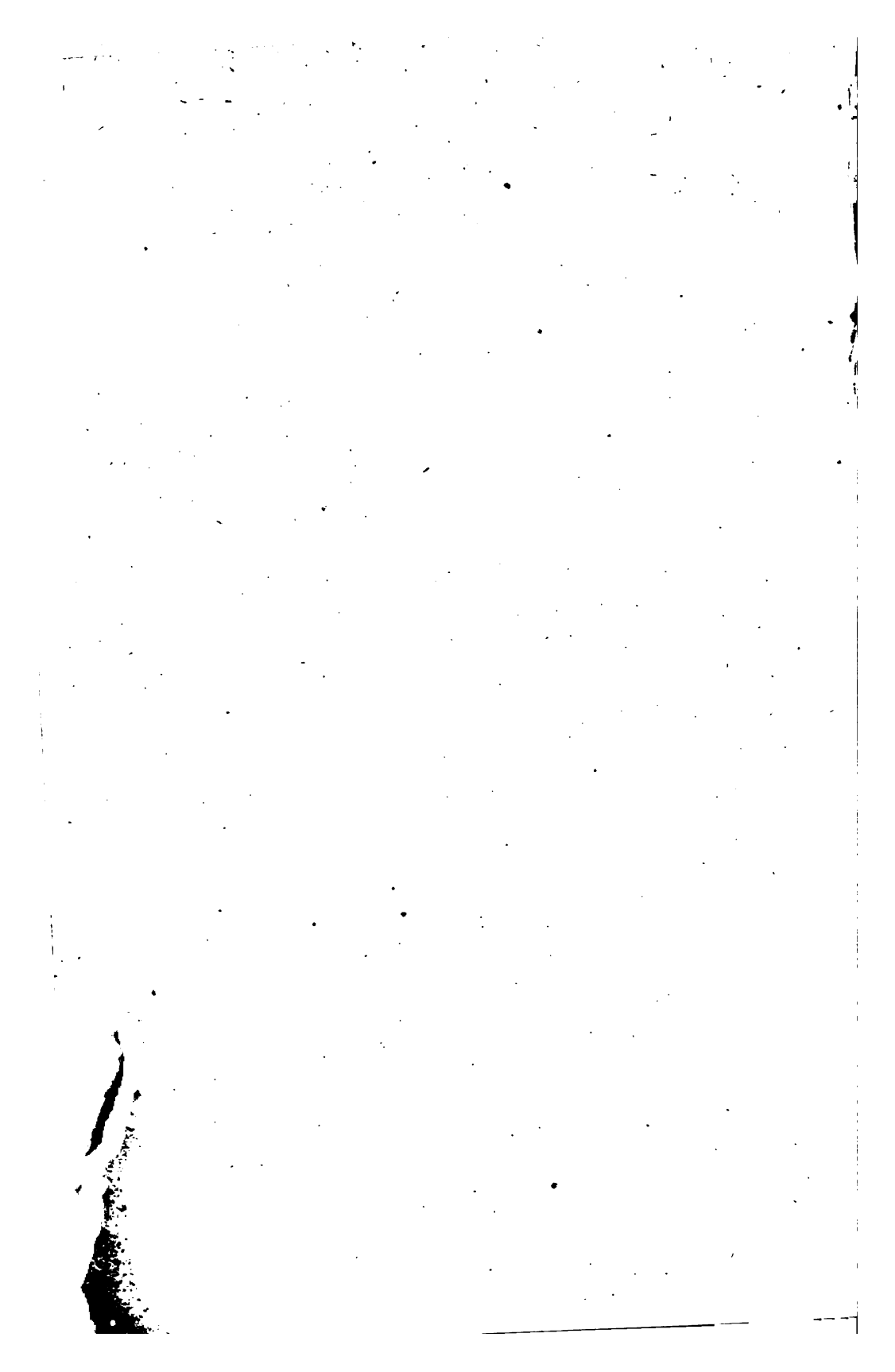

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The Council think it proper to state that the authors of the several communications are alone responsible for the statements, reasonings, and opinions contained in their respective papers.

53, BERNERS STREET, OXFORD STREET;
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CONTENTS.

PAGE

NOTICE FROM THE COUNCIL v

LIST OF ILLUSTRATIONS xiv

LIST OF OFFICERS AND MEMBERS OF THE COUNCIL DURING 1883 xv

LIST OF PRESIDENTS OF THE SOCIETY FROM ITS FORMATION xvi

LIST OF HONORARY MEMBERS OF THE SOCIETY . . xvii-xviii

LIST OF MEMBERS OF THE SOCIETY xix

REPORT OF THE COUNCIL xlvii

BALANCE SHEET xlix

ADDRESS BY THE PRESIDENT li

COMMUNICATIONS:—

I. CASES OF PHTHISIS TREATED BY RESIDENCE AT HIGH ALTITUDES. By C. THEODORE WILLIAMS, M.D. 1

II. CASE OF EXCISION OF THE TONSIL FOR EPITHELIOMA. BY C. HILTON GOLDING-BIRD . . 9

III. CASE OF EXCISION OF THE BASE OF THE TONGUE, RIGHT TONSIL, AND PART OF THE SOFT PALATE, FOR EPITHELIOMA. ANEURISM OF BOTH POPLITEAL ARTERIES. By R. CLEMENT LUCAS, B.S. 14

228185

PAGE

IV. A Case of Gunshot Injury of the Lower Jaw. By W. J. Walsham 17

V. Case of Ligature of Left Common Carotid for Hæmorrhage, due to Secondary Sore-throat of Scarlet Fever. Retropharyngeal Abscess. Recovery, with Fixation of Left Vocal Cord. By A. J. Pepper, M.S., and F. A. Mahomed, M.D. . . 21

VI. A Case of Hæmaturia from Bilharzia Hæmatobia. By H. Radcliffe Crocker, M.D. 25

VII. Case of Extirpation of the Uterus for Fibroid Disease. Death on the Fourth Day. By C. Hilton Golding-Bird . . 28

VIII. Two Cases of Spina Bifida treated by Glycero-iodine Injection. By H. H. Clutton 34

IX. A Case of Separation of the Epiphysis of the Clavicle by Muscular Action. By Christopher Heath 37

X. Six Cases of Diphtheria treated by the local application of Borax and Boracic Acid. By J. F. Goodhart, M.D. . . 38

XI. Symmetrical Congestive Mottling of the Skin. By John Cavafy, M.D. . . . 43

XII. Lumbar Nephrectomy for Medullary Carcinoma of Kidney. By James E. Adams . 48

XIII. Two Cases of Subcutaneous Rheumatic Nodules. By Dyce Duckworth, M.D. . 52

XIV. Three Cases of Intussusception treated by Abdominal Section. By Rickman J. Godlee, M.S. 55

PAGE

XV. Three Cases of Intussusception treated by Inflation. By Frederick Taylor, M.D. . 64

XVI. A Case of Intussusception, for which Abdominal Section was performed. By Warrington Haward 72

XVII. Case of a Child with Symptoms resembling those of Myxœdema. By C. F. Coxwell, M.B. 75

XVIII. A Case of Enormous Enlargement of the Lower Lip cured by Operation. By J. N. C. Davies-Colley, M.C. . . . 79

XIX. A Case of Transpatellar Excision of the Knee. By C. Hilton Golding-Bird . . 82

XX. Subperiosteal Amputation at the Hip-joint. By James Shuter 86

Report of Committee 88

XXI. Case of Nephrolithotomy. By Bennett May. Communicated by Warrington Haward . 90

XXII. A Case of Nephro-lithotomy, showing the importance of Examining from the Anterior Surface of the Kidney in this Operation. By H. G. Howse, M.S. . 93

XXIII. Case of supposed Hydrophobia, treated by Chloral, which Recovered. By W. H. Broadbent, M.D. 100

XXIV. Two Cases of Pseudo-hypertrophic Muscular Paralysis in Adults (Brothers). By J. Kingston Fowler, M.B. 112

XXV. Fracture of the Radius and Dislocation forwards of the Ulna in front of the Wrist, in which the lower end of the latter Bone was removed to effect Reduction. By Rickman J. Godlee, M.S. . 120

PAGE

XXVI. Acute Necrosis of the Right Orbital Plate of the Frontal Bone, giving rise to Thrombosis in the frontal end of the Longitudinal Sinus, and in the Cavernous Sinus and Ophthalmic Vein. By David R. Pearson, M.D. Communicated by W. H. Broadbent, M.D. 122

XXVII. Contused Wound of the Thigh and Leg in a young Child. Gangrene of the Limb, and Death. By Robert William Parker . 126

XXVIII. Case of Tetanus, with a fatal termination; treated by Chloral Hydrate and Morphia. By W. Spencer Watson 130

XXIX. Tetanus following Laceration of the Toes, and lasting Forty-two Days. Symes' Amputation. Recovery. By Howard Marsh 134

XXX. Removal by Internal Operation of a Pin from the Larynx, after its Impaction for Thirteen Months, with Fixation of the Left Crico-arytenoid Articulation. By Felix Semon, M.D. 138

XXXI. A Case of Lateral Curvature of the Spine, illustrating its Treatment without the Use of Mechanical Supports. By Bernard Roth 144

XXXII. Two Cases of Enteric Fever, accompanied by an Erythematous Eruption resembling that of Scarlatina. By Thomas Whipham, M.B. 150

XXXIII. A Case of Tabetic Arthropathy, in which the Tarsal Bones of both Feet were involved. By Herbert W. Page, M.C. . 158

XXXIV. Case of Tubercular Leprosy in a Boy. By W. J. Tyson, M.D. 163

Report of Committee 164

PAGE

XXXV. On Removing large Portions of the Upper Lip without Deformity of the Face. By Richard Barwell 165

XXXVI. A Case of Local Asphyxia; Symmetrical Gangrene. By Reginald Southey, M.D. . 167

XXXVII. Three Cases of Raynaud's Disease. By Thomas Barlow, M.D. 179

XXXVIII. A Case of Subcutaneous Nodules occurring in a Patient the subject of Syphilis, and with very indefinite connection with Rheumatism. By Stephen Mackenzie, M.D. 188

XXXIX. Case of Rheumatismal Cutaneous, Subcutaneous, and Periosteal Nodules; probable Syphilitic Taint. By Dyce Duckworth, M.D. 190

XL. Examples of the two Classes of Cases in which Cerebral Abscess, Meningitis, or Pyæmia, originate in Disease of the Ear. By W. B. Dalby 193

XLI. A Case of Morphæa in the Region of the First and Second Divisions of the Fifth Nerve, with Paralysis of the Intra-ocular Branches of the Third Nerve. By E. Nettleship and Charles Higgins . . 199

XLII. Cases of Infantile Nystagmus. By R. J. Lee, M.D. 202

XLIII. Small Goitre producing Great Difficulty of Breathing on exertion. Excision. Recovery and complete Relief. By Arthur E. Barker 207

PAGE

XLIV. Ulceration at the Pylorus. Perforation. Death from Peritonitis. Pain at the Stomach not aggravated but often relieved by Food. By S. O. Habershon, M.D. 211

XLV. Sebaceous or Dermoid Cyst of the Tongue. Removal by Submental Incision. Cure. By Arthur E. Barker 215

XLVI. Cases of Stretching the Facial Nerve. By J. Rickman Godlee, M.S. . . . 220

XLVII. Case of Spondylitis Deformans. By H. H. Clutton 232

XLVIII. Case of Spondylitis Deformans and commencing Osteitis Deformans. By Henry A. Lediard, M.D. 235

XLIX. Two Cases of Epithelioma occurring on tight Cicatrices. By George Lawson . 238

L. A Case of Nodes on the Forehead from Congenital Syphilis. By H. Radcliffe Crocker, M.D. 241

LI. A Case of Infantile Hemiplegia with unusual Reflex Phenomena. By Frederick Taylor, M.D. 243

Living Specimens—Exhibited by Card:

Spontaneous Dislocation of Clavicle. By S. D. Clippingdale, M.D. 247

Pseudo-hypertrophic Muscular Paralysis in an Adult. By T. Henry Green, M.D. . . . 247

Diffused Scleroderma. By James F. Goodhart, M.D. 249

PAGE

ACUTE DIFFUSED SCLERODERMA. By SAMUEL WEST, M.D. 252

OBSTRUCTION OF THE SUPERIOR VENA CAVA. By J. K. FOWLER, M.B. 254

LYMPHATIC DISEASE OF THE RIGHT ARM. By R. W. PARKER 256

CONGENITAL DISLOCATION OF THE HIP. By R. W. PARKER 257

UNUSUAL HARDNESS OF THE EARS. By DYCE DUCKWORTH, M.D. 258

SUBPERIOSTEAL AMPUTATION AT THE HIP-JOINT. By ARTHUR E. BARKER 258

CONGENITAL DEFICIENCY OF THE FEMUR. By JOHN H. MORGAN 259

MYXŒDEMA IN A MALE. By STEPHEN MACKENZIE, M.D. 260

SCLEREMA NEO-NATORUM. By THOMAS BARLOW, M.D. 262

CASES OF MYXŒDEMA. By JOHN R. LUNN . . 263

PECULIAR DEFORMITY OF HANDS, ETC., PROBABLY OF RHEUMATIC ORIGIN. By JOHN R. LUNN . . 265

INDEX 267

LIST OF ILLUSTRATIONS.

PLATES.

PAGE

I. Symmetrical Congestive Mottling of the Skin. J. Cavafy, M.D. 44

II. Ditto 46

III. Illustrating Cases of Intussusception. F. Taylor, M.D. 68

IV. Fig. 1, Calculus removed by Nephro-lithotomy. Bennett May 92
Fig. 2, Leprosy. W. J. Tyson, M.D. . 164 } 92
Fig. 3, Spondylitis and Osteitis Deformans. H. A. Lediard, M.D. 236

V. Figs. 1 and 2, Illustrating Case of Removal of Pin from the Larynx. F. Semon, M.D. 139 } 139
Fig. 3, Myxœdema in a Male. J. R. Lunn 264

VI. Illustrating Case of Spinal Lateral Curvature. B. Roth 146

VII. Ditto 146

VIII. Local Asphyxia or Symmetrical Gangrene. R. Southey, M.D. 168

IX. Epithelioma growing from the Cicatrix uniting the Eyelids to the Eye. G. Lawson . . 238

WOODCUTS.

Cyrtometric Tracings Illustrating Cases of Phthisis treated by Residence at High Altitudes. C. Theodore Williams, M.D. 4

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1881 BUTLIN, HENRY TRENTHAM, Assistant Surgeon to, and Demonstrator of Practical Surgery at, St. Bartholomew's Hospital; Assistant Surgeon to the West London Hospital; 47, Queen Anne Street, Cavendish Square, W. *Trans.* 1.

1871 BUTT, WILLIAM F., 25, Park Street, Park Lane, W.

Orig. Memb. BUZZARD, THOMAS, M.D., Physician to the National Hospital for the Paralysed and Epileptic; 65, Grosvenor Street, W. (S. 1870–2, C. 1873–6, V.P. 1880–1.) *Trans.* 14.

1880 CARRINGTON, ROBERT EDMUND, M.D., Medical Registrar of Guy's Hospital; 15, St. Thomas's Street, Southwark, S.E. *Trans.* 2.

1869 CARTER, ROBERT BRUDENELL, Ophthalmic Surgeon to, and Lecturer on Ophthalmology at, St. George's Hospital; Surgeon to the Royal South London Ophthalmic Hospital; 27, Queen Anne Street, Cavendish Square, W. (C. 1873–6, V.P. 1879–81.) *Trans.* 7.

1868 CAVAFY, JOHN, M.D. (C.), Physician to St. George's Hospital; 2, Upper Berkeley Street, Portman Square, W. (C. 1881–83.) *Trans.* 4.

Orig. Memb. CAYLEY, WILLIAM, M.D., Physician to, and Lecturer on the Principles and Practice of Medicine at, the Middlesex Hospital; 27, Wimpole Street, W. (C. 1874–5, S. 1876–8, C. 1879–80.) *Trans.* 6.

1873 CHISHOLM, EDWIN, M.D., Abergeldie, Ashfield, near Sydney, New South Wales.

1868 CHOLMELEY, WILLIAM, M.D., Physician to the Great Northern Hospital, and Margaret Street Infirmary for Consumption; 63, Grosvenor Street, W. (C. 1871–3.) *Trans.* 2.

Orig. Memb. CHURCH, WILLIAM SELBY, M.D., Physician to, and Lecturer on Clinical Medicine at, St. Bartholomew's Hospital; 130, Harley Street, Cavendish Square, W. (C. 1874–6.)

1873 CHURTON, THOMAS, 35, Clarendon Road, Leeds. *Trans.* 1.

1882 CLAPHAM, EDWARD, M.D., 29, Lingfield Road, Wimbledon.

ELECTED

Orig. Memb. CLAPTON, EDWARD, M.D., 10A, St. Thomas's Street, Southwark, S.E. (C. 1872–4.) *Trans.* 1.

Orig. Memb. CLARK, SIR ANDREW, Bart., M.D., LL.D. Aberd. (*President*), Physician to, and Lecturer on Medicine at, the London Hospital; 16, Cavendish Square, W. (C. 1876–8, V.P. 1880–82, P. 1883.) *Trans.* 1.

1874 CLARK, ANDREW, Assistant Surgeon to, and Lecturer on Practical Surgery at, the Middlesex Hospital; 19, Cavendish Place, Cavendish Square, W.

1877 †CLAY, ROBERT HOGARTH, M.D., 4, Windsor Villas, Plymouth.

1882 CLIPPINGDALE, SAMUEL DODD, M.D., 26, Ladbroke Grove, W. *Trans.* 1.

1877 CLUTTON, HENRY HUGH, M.A., Assistant Surgeon to St. Thomas's Hospital; 77, Lambeth Palace Road, S.E. *Trans.* 4.

1878 COLLIE, ALEXANDER, M.D., Fever Hospital (Metropolitan Asylum District), The Grove, Homerton, E.

1882 COLLIER, HERBERT, M.D. Brussels; Marine Villa, Gorleston, Great Yarmouth, Norfolk.

1878 COLLINS, W. MAUNSELL, M.D., M.C., Queen's Univ. I., Scots Guards; 70A, Grosvenor Street, W.

1882 COLQUHOUN, DANIEL, M.D.

1872 COOKE, THOMAS, Assistant Surgeon to the Westminster Hospital; 16, Woburn Place, Russell Square, W.C.

1868 COOPER, FRANK W., Leytonstone, Essex.

1880 COTTLE, WYNDHAM, M.B., Senior Assistant Surgeon to the Hospital for Diseases of the Skin, Blackfriars; 3, Savile Row, W.

Orig. Memb. COUPER, JOHN, Surgeon to the London Hospital and Assistant Surgeon to the Royal London Ophthalmic Hospital; 80, Grosvenor Street, W. (C. 1874.)

1875 COUPLAND, SIDNEY, M.D. (*Hon. Secretary*), Physician to, and Lecturer on Pathological Anatomy at, the Middlesex Hospital; 14, Weymouth Street, Portland Place, W. *Trans.* 3.

1882 COXWELL, C. F., M.B., National Hospital for the Paralysed and Epileptic; 23, Queen Square, W.C. *Trans.* 1.

ELECTED

1881 CREIGHTON, CHARLES, M.D., 6, Queen Anne Street, Cavendish Square.

1879 CRIPPS, WILLIAM HARRISON, Surgical Registrar to St. Bartholomew's Hospital; Surgeon to the Great Northern Hospital; 2, Stratford Place, Oxford Street, W. *Trans.* 3.

1872 CRITCHETT, ANDERSON, Ophthalmic Surgeon to St. Mary's Hospital; Ophthalmic Surgeon to the Royal Free Hospital; 21, Harley Street, W.

1877 CROCKER, HENRY RADCLIFFE, M.D., Physician to the Skin Department, University College Hospital; Assistant Physician and Pathologist to the East London Hospital for Children; 28, Welbeck Street, Cavendish Square, W. *Trans.* 13.

Orig. Memb. CROFT, JOHN (V.P.), Surgeon to St. Thomas's Hospital; 48, Brook Street, Grosvenor Square, W. (C. 1870–2, V.P. 1882–3.) *Trans.* 9.

1872 DALBY, WILLIAM BARTLETT, M.B., Aural Surgeon to St. George's Hospital; 18, Savile Row, W. (C. 1879–81.) *Trans.* 4.

1882 DALLAWAY, J. W. DENNIS, Langham Hotel.

Orig. Memb. DAVIES, HERBERT, M.D., Senior Physician to, and Lecturer on Medicine at, the London Hospital; 23, Finsbury Square, E.C. (V.P. 1877.)

1879 DAVIES-COLLEY, J. NEVILLE C., M.B., M.C., Surgeon to Guy's Hospital; 36, Harley Street, Cavendish Square, W. *Trans.* 3.

Orig. Memb. DAVIS, JOHN HALL, M.D., Obstetric Physician to, and Lecturer on Midwifery and Diseases of Women and Children at, the Middlesex Hospital; 37, Gloucester Place, Portman Square, W. (C. 1870.) *Trans.* 1.

1879 DAVY, HENRY, M.D., 34, Southernhay, Exeter.

1868 DAY, WILLIAM HENRY, M.D., Physician to the Samaritan Free Hospital for Women and Children; 10, Manchester Square, W. *Trans.* 5.

1872 DE CASTRO, JAMES CATO, M.B., Pau, France.

1879 †DENNIS, FREDERIC S., M.D., 21, East 21st Street, New York, U.S.

1875 DENT, CLINTON T., Assistant Surgeon to St. George's Hospital; 19, Savile Row, W. *Trans.* 1.

ELECTED

Orig. Memb. DICKINSON, WILLIAM HOWSHIP, M.D., Physician to, and Lecturer on Medicine at, St. George's Hospital; Physician to the Hospital for Sick Children; 9, Chesterfield Street, Mayfair, W. (C. 1874–5.)

1871 DIVER, EBENEZER, M.D., Caterham Valley.

1873 DONKIN, ARTHUR SCOTT, M.D. *Trans* 2.

Orig. Memb. DOWN, JOHN LANGDON H., M.D., Physician to, and Lecturer on Medicine at, the London Hospital; 81, Harley Street, W. (C. 1870–2.) *Trans.* 1.

1874 DOWSE, THOMAS STRETCH, M.D., 14, Welbeck Street, Cavendish Square, W. *Trans.* 5.

1868 DRAGE, CHARLES, M.D., Hatfield, Herts.

1879 DREWITT, F. G. DAWTREY, M.D., 52, Brook Street, Grosvenor Square, W.

Orig. Memb. DUCKWORTH, DYCE, M.D., Assistant Physician to St. Bartholomew's Hospital; 11, Grafton Street, Bond Street, W. (C. 1875–7.) *Trans.* 13.

Orig. Memb. DUFFIN, ALFRED B., M.D., Physician to King's College Hospital, Professor of Pathological Anatomy in King's College, London; 18, Devonshire Street, Portland Place, W. (C. 1872–4.) *Trans.* 6.

1869 DUKE, OLLIVER THOMAS, M.B., Surgeon, Bengal Army, India.

Orig. Memb. DURHAM, ARTHUR EDWARD, Surgeon to, and Lecturer on Surgery at, Guy's Hospital; 82, Brook Street, W. (C. 1867–9.) *Trans.* 4.

Orig. Memb. EDIS, ARTHUR W., M.D., Assistant Obstetric Physician to, and Lecturer on Midwifery at, the Middlesex Hospital; 22, Wimpole Street, Cavendish Square, W. *Trans.* 1.

1882 EMOND, EMILE, M.D. Par., Mont Dore, Auvergne, and 113, Boulevard Beaumarchais, Paris.

1881 ENGLISH, THOMAS JOHNSTON, M.D., 128, Fulham Road, S.W.

Orig. Memb. ERICHSEN, JOHN E., F.R.S., Holme Professor of Clinical Surgery in University College, and Senior Surgeon to University College Hospital; 6, Cavendish Place, Cavendish Square, W. (V.P. 1869–71.)

ELECTED

1868 EVANS, JULIAN, M.B., Physician, Victoria Hospital for Children; 123, Finborough Road, Redclyffe Square, S.W.

1877 EWART, WILLIAM, M.B., Assistant Physician to, and Lecturer on Physiology at, St. George's Hospital; 33, Curzon Street, Mayfair, W.

Orig. Memb. FAGGE, CHARLES HILTON, M.D., Physician to, and Lecturer on Pathology at, Guy's Hospital; 76, Grosvenor Street, W. (C. 1875–7.) *Trans.* 2.

1868 FAIRBANK, FREDERICK ROYSTON, M.D., 46, Hall Gate, Doncaster. *Trans.* 1.

1872 FENWICK, J. C. J., M.B., 16, Old Elvet, Durham.

1878 FIELD, GEORGE P., Aural Surgeon to St. Mary's Hospital; 31, Lower Seymour Street, Portman Square, W.

1876 FINLAY, DAVID WHITE, M.D., Assistant Physician to, and Lecturer on Forensic Medicine at, the Middlesex Hospital; 21, Montagu Street, Portman Square, W. *Trans.* 1.

1868 FISH, JOHN CROCKETT, M.D., 92, Wimpole Street, Cavendish Square, W. (C. 1869–70.)

1872 FISHER, FREDERIC R., Assistant Surgeon to the Victoria Hospital for Sick Children; 79, Grosvenor Street, W.

1878 *FONMARTIN, HENRY DE, M.D. Par., Knaphill, Woking, Surrey.

1881 FOWLER, JAMES KINGSTON, M.B., Assistant Physician to the Middlesex Hospital, and Assistant Physician to the Hospital for Consumption, Brompton; 35, Clarges Street, Piccadilly, W. *Trans.* 2.

1878 FOX, THOMAS COLCOTT, M.B. Lond., B.A. Camb., 14, Harley Street, Cavendish Square, W. *Trans.* 3.

Orig. Memb. FOX, WILSON, M.D., F.R.S., Physician Extraordinary to H.M. the Queen; Holme Professor of Clinical Medicine in University College, and Physician to University College Hospital; 67, Grosvenor Street, W. (C. 1873, V.P. 1878–9.)

1868 GANT, FREDERICK JAMES, Surgeon to the Royal Free Hospital; 16, Connaught Square, W. (C. 1877–9.) *Trans* 2.

ELECTED

1879 GARSTANG, THOMAS WALTER HARROPP, Oakleigh, Dobcross, near Manchester.

1868 GLOVER, JAMES GREY, M.D., Hon. Surgeon to the Holloway and North Islington Dispensary; 33, Compton Terrace, Islington, N. (C. 1878–80.) *Trans.* 2.

1882 GODDARD, EUGENE, M.D., 106, Highbury New Park, N.

1875 GODLEE, RICKMAN JOHN, M.S., M.B. (C.), Assistant Surgeon to University College Hospital; 81, Wimpole Street, Cavendish Square, W. (C. 1882–3.) *Trans.* 7.

1882 GOLDIE, ROBERT WILLIAM, Medical Superintendent, Poplar and Stepney Sick Asylum; Devons Road, Bromley.

1878 GOLDING-BIRD, C. H., M.B., Assistant Surgeon to Guy's Hospital; 13, St. Thomas's Street, Southwark, S.E. *Trans.* 5.

1875 GOODHART, JAMES FREDERIC, M.D., Assistant Physician to, and Curator of the Museum at, Guy's Hospital; 25, Weymouth Street, Portland Place, W. (C. 1880–2.) *Trans.* 9.

1869 GOODRIDGE, HENRY FREDERICK AUGUSTUS, M.D., Physician to the Bath Royal United Hospital; Bath.

1882 GOODSALL, D. H., 17, Devonshire Place, Upper Wimpole Street, W.

1881 GORDON, HUGH ALEX., M.D., Holloway Prison, Camden Road.

1877 GOULD, A. PEARCE, M.S., Assistant Surgeon to the Middlesex Hospital; 16, Queen Anne Street. Cavendish Square, W. *Trans.* 5.

1871 GOVER, ROBERT M., M.B., 12, Hereford Gardens, W

1875 GOWERS, WILLIAM RICHARD, M.D. (C.), Assistant Physician to University College Hospital; 50, Queen Anne Street, Cavendish Square, W. (C. 1881–2.) *Trans.* 4.

1868 GREEN, T. HENRY, M.D., Physician to, and Lecturer on Pathology at, the Charing Cross Hospital; 74, Wimpole Street, W. (C. 1877–9.) *Trans.* 3.

ELECTED

1875 †GREENFIELD, WILLIAM SMITH, M.D., Professor of General Pathology in the University of Edinburgh; 7, Heriot Row, Edinburgh. (C. 1881.) *Trans.* 3.

Orig. Memb. GREENHOW, EDWARD HEADLAM, M.D., F.R.S., Consulting Physician to the Middlesex Hospital; Castle Lodge, Reigate. (T. 1867–78, P. 1879–80.) *Trans.* 24.

1883 GROSS, CHARLES, Medical Superintendent, St. Saviour's Infirmary, Westmoreland Road, Walworth, S.E.

1868 †GUENEAU DE MUSSY, HENRI, M.D., 15, Rue du Cirque, Paris.

Orig. Memb. GULL, Sir WILLIAM WITHEY, Bart., M.D., D.C.L., F.R.S., Physician Extraordinary to the Queen; 74, Brook Street, W. (V.P. 1868–70, P. 1871–2.) *Trans.* 6.

Orig. Memb. HABERSHON, SAMUEL OSBORNE, M.D., 70, Brook Street, W. (C. 1873, V.P. 1878–9.) *Trans.* 6.

1882 HADDEN, WALTER BAUGH, M.D., Demonstrator of Morbid Anatomy at St. Thomas's Hospital; 21, Welbeck Street, Cavendish Square, W. *Trans.* 1.

1875 HALE, C. D. B., 8, Sussex Gardens, Hyde Park, W.

1878 HALL, F. DE HAVILLAND, M.D., Assistant Physician to the Westminster Hospital; 46, Queen Anne Street, Cavendish Square, W. *Trans.* 2.

1878 HAMILTON, J. LAWRENCE, L.R.C.P.Ed., 34, Gloucester Terrace, Hyde Park, W.

1873 HARLEY, GEORGE, M.D., F.R.S., 25, Harley Street, Cavendish Square, W.

Orig. Memb. HARLEY, JOHN, M.D., F.L.S., Physician to, and Lecturer on General Anatomy and Physiology at, St. Thomas's Hospital; 39, Brook Street, Grosvenor Square, W. (C. 1875.) *Trans.* 1.

1872 HARRIS, HENRY, M.D., Trengweath, Redruth, Cornwall.

1881 HARRISON, CHARLES EDWARD, M.B., Grenadier Guards Hospital, Rochester Row, S.W.

Orig. Memb. HART, ERNEST, 38, Wimpole Street, Cavendish Square, W. (C. 1867–8.)

1869 HAWARD, J. WARRINGTON (*Hon. Secretary*), Surgeon to St. George's Hospital; 16, Savile Row, Burlington Gardens, W. (C. 1876–8. S. 1881–2.) *Trans.* 11.

ELECTED

Orig. Memb. HEATH, CHRISTOPHER (*Treasurer*), Surgeon to University College Hospital, and Holme Professor of Clinical Surgery in University College; 36, Cavendish Square, W. (C. 1867–71, V.P. 1876–8, T. 1879–83.) *Trans.* 17.

1879 HENDERSON, GEORGE COURTENAY, M.D., Kingston, Jamaica, West Indies.

1882 HERON, GEORGE ALLAN, M.D., Assistant Physician to the City of London Hospital for Diseases of the Chest, Victoria Park; Assistant Physician to the West London Hospital for the Paralysed and Epileptic; 40, Margaret Street, Cavendish Square.

1868 †HESLOP, THOMAS PRETIOUS, M.D., Physician to the Children's Hospital, Birmingham.

Orig. Memb. HEWETT, SIR PRESCOTT GARDNER, Bart., F.R.S., Surgeon-Extraordinary to H.M. the Queen; Consulting Surgeon to St. George's Hospital; Chesnut Lodge, Horsham, Sussex. (V.P. 1869–71, P. 1873–4.) *Trans.* 3.

Orig. Memb. HEWITT, GRAILY, M.D., Professor of Midwifery in University College, and Obstetric Physician to University College Hospital; 36, Berkeley Square, W. (C. 1878–9.) *Trans.* 1.

Orig. Memb. HICKS, J. BRAXTON, M.D., F.R.S., F.L.S., Consulting Physician Accoucheur to Guy's Hospital; 24, George Street, Hanover Square, W. (C. 1875–7.)

1868 HILL, BERKELEY, M.B., Professor of Clinical Surgery in University College, London, Surgeon to University College Hospital, and Surgeon to the Lock Hospital; 55, Wimpole Street, W. (C. 1870–1.) *Trans.* 7.

1874 HOLDERNESS, WILLIAM BROWN, 15, Park Street, Windsor.

1868 †HOLMAN, CONSTANTINE, M.D., Reigate, Surrey.

1868 HOLMAN, WILLIAM HENRY, M.B., 68, Adelaide Road, South Hampstead, N.W.

Orig. Memb. HOLMES, TIMOTHY, Surgeon to, and Lecturer on Surgery at, St. George's Hospital; Surgeon-in-Chief to the Metropolitan Police Force; 18, Great Cumberland Place, Hyde Park, W. (C. 1867–9, V.P. 1873–5.) *Trans.* 13.

ELECTED

Orig. Memb. HOLT, BARNARD WIGHT, Consulting Surgeon to, and Lecturer on Clinical Surgery at, the Westminster Hospital; Medical Officer of Health for Westminster; 14, Savile Row, W. *Trans.* 1.

Orig. Memb. HOLTHOUSE, CARSTEN. (C. 1870–2.) *Trans.* 8.

1878 HOOD, DONALD WILLIAM CHARLES, M.D., Assistant Physician to the West London Hospital; 43, Green Street, Park Lane, W.

1873 HOPE, WILLIAM, M.D., Senior Physician to Queen Charlotte's Lying-in Hospital; 56, Curzon Street, Mayfair, W.

1878 HOUGHTON, WALTER B., M.D., late Assistant Physician to Charing Cross Hospital; Church Villa, Warrior Square, St. Leonard's-on-Sea.

1880 HOVELL, T. MARK, Assistant Aural Surgeon to the London Hospital; 3, Mansfield Street, Portland Place, W.

1876 HOWSE, HENRY GREENWAY, M.S. (C.), Surgeon to, and Lecturer on Anatomy at, Guy's Hospital; Surgeon to the Evelina Hospital for Sick Children; 10, St. Thomas's Street, S.E. (C. 1881–3.) *Trans.* 3.

Orig. Memb. HULKE, JOHN WHITAKER, F.R.S., Surgeon to the Middlesex Hospital, and Surgeon to the Royal London Ophthalmic Hospital; 10, Old Burlington Street, W. (C. 1867–9, V.P. 1878–80.) *Trans.* 13.

Orig. Memb. HUMPHRY, GEORGE MURRAY, M.D., F.R.S., Professor of Surgery in the University of Cambridge, and Surgeon to Addenbrooke's Hospital, Cambridge. (V.P. 1867–70.)

Orig. Memb. HUTCHINSON, JONATHAN, F.R.S., Consulting Surgeon to the London Hospital; Surgeon to the Hospital for Diseases of the Skin, and Surgeon to the Royal London Ophthalmic Hospital; 15, Cavendish Square, W. (C. 1867–8, V.P. 1875–6.) *Trans.* 8.

1882 HUXTABLE, LOUIS RALSTON, M.B., C.M., 99, Priory Road, West Hampstead, N.W.

1879 INKSON, JAMES, M.D., Surgeon-Major, Army Medical Department [care of J. TAYLOR, 37, Albert Square, Clapham].

ELECTED

Orig. Memb. JACKSON, J. HUGHLINGS, M.D., Physician to the London Hospital; Physician to the National Hospital for the Paralysed and Epileptic; 3, Manchester Square, W. (C. 1872–3.) *Trans.* 1.

1877 JACOBSON, WALTER HAMILTON ACLAND, M.B., Assistant Surgeon to Guy's Hospital; 41, Finsbury Square.

Orig. Memb. JENNER, Sir WILLIAM, Bart., M.D., K.C.B., D.C.L., LL.D., F.R.S., Physician-in-Ordinary to H.M. the Queen and to H.R.H. the Prince of Wales; Consulting Physician to University College Hospital; 63, Brook Street, W. (V.P. 1867–70, P. 1875–6.) *Trans.* 2.

1875 JESSETT, FREDERICK BOWREMAN, 16, Upper Wimpole Street, W.

Orig. Memb. JOHNSON, GEORGE, M.D., F.R.S., Physician to King's College Hospital; 11, Savile Row, W. (V.P. 1874–6.) *Trans.* 5.

1878 JOHNSTON, WILLIAM, M.D., M.C., 16, Lonsdale Terrace, Upper Kent Street, Leicester.

Orig. Memb. JONES, SYDNEY, M.B., Surgeon to, and Lecturer on Surgery at, St. Thomas's Hospital; 16, George Street, Hanover Square, W. (C. 1867–8.) *Trans.* 1.

1872 JONES, THOMAS RIDGE, M.D., Physician to the Victoria Hospital for Children; 4, Chesham Place, Belgrave Square, S.W.

1876 JORDAN, FURNEAUX, Surgeon to the Queen's Hospital, Birmingham; 22, Colmore Row, Birmingham. *Trans.* 1.

1878 KEETLEY, CHARLES ROBERT BELL, Assistant Surgeon to the West London Hospital; 20, Princes Street, Hanover Square, W. *Trans.* 2.

Orig. Memb. KELLY, CHARLES, M.D., Medical Officer of Health for the West Sussex District; Worthing, Sussex.

1882 KESTEVEN, WILLIAM HENRY, 401, Holloway Road, N. *Trans.* 1.

1883 KIDD, PERCY, M.D., Assistant Physician to the Hospital for Consumption, Brompton; 60, Brook Street, Grosvenor Square.

1878 LACEY, THOMAS WARNER, 196, Burrage Road, Plumstead, S.E.

ELECTED

1873 LACY, C. DE LACY, M.B., 31, Grosvenor Street, W.

Orig. Memb. LANGTON, JOHN, Surgeon to, and Lecturer on Anatomy at, St. Bartholomew's Hospital, and Surgeon to the City of London Truss Society; 2, Harley Street, W. (C. 1878–80.) *Trans.* 2.

1883 LAWRENCE, HENRY CRIPPS, 49, Oxford Terrace, Hyde Park, W.

1869 LAWRENCE, JAMES E., Geraldine Lodge, East Hill, Wandsworth, S.W.

Orig. Memb. LAWSON, GEORGE (V.P.), Surgeon to the Middlesex Hospital, and Surgeon to the Royal London Ophthalmic Hospital; 12, Harley Street, W. (S. 1871–3, C. 1874–6, V.P. 1881–3.) *Trans.* 15.

1877 LEDIARD, HENRY AMBROSE, Surgeon to the Cumberland Infirmary; 43, Lowther Street, Carlisle. *Trans.* 2.

Orig. Memb. LEE, HENRY, Consulting Surgeon to St. George's Hospital; 9, Savile Row, W. (V.P. 1870–2.) *Trans.* 7.

1874 LEE, ROBERT JAMES, M.D. (C.), Assistant Physician to the Hospital for Sick Children; 6, Savile Row, W. (C. 1883.) *Trans.* 2.

1882 LEEDS, THOMAS, Wanderers' Club, 9, Pall Mall, S.W.

1877 LEES, DAVID B., M.D., Physician (with charge of outpatients) to, and Lecturer on Materia Medica at, St. Mary's Hospital, and Assistant Physician to the Hospital for Sick Children; 2, Thurloe Houses, Thurloe Square, S.W, *Trans.* 2.

1879 LICHTENBERG, GEORGE, M.D., 47, Finsbury Square.

1878 LISTER, JOSEPH, D.C.L., L.L.D, F.R.S., Professor of Clinical Surgery at King's College, and Surgeon to King's College Hospital; 12, Park Crescent, Regent's Park, W. (P. 1881–2.) *Trans.* 3.

1868 LITTLE, LOUIS STROMEYER, China.

1875 LIVEING, EDWARD, M.D., 52, Queen Anne Street, Cavendish Square, W.

1872 LIVEING, ROBERT, M.D. (C.), Lecturer on Dermatology, and Physician to the Skin Department at the Middlesex Hospital; 11, Manchester Square, W. (C. 1883.) *Trans.* 2.

ELECTED

1878 LLOYD, ROBERT HODGENS, M.D., Medical Superintendent Lambeth Infirmary, Brook Street, Kennington Road, S.E. *Trans.* 1.

1876 LONGHURST, ARTHUR EDWIN TEMPLE, M.D., 22, Wilton Street, Grosvenor Place, S.W.

1881 LUBBOCK, MONTAGU, M.D., Assistant Physician to Charing Cross Hospital; 19, Grosvenor Street, W.

1876 LUCAS, R. CLEMENT, M.B., B.S. (C.), Senior Assistant Surgeon to, and Demonstrator of Operative and Practical Surgery at, Guy's Hospital; 18, Finsbury Square, E.C. (C. 1883.) *Trans.* 5.

1879 LUNN, JOHN REUBEN, Resident Medical Officer; New Marylebone Infirmary, Rackham Street, Ladbroke Grove Road, Notting Hill, W. *Trans.* 3.

1871 MACCORMAC, SIR WILLIAM, Surgeon to, and Lecturer on Surgery at, St. Thomas's Hospital; 13, Harley Street, W. (C. 1877–9.) *Trans.* 5.

1883 †MACFARLANE, ALEXANDER WILLIAM, M.D., Consulting Physician to the Kilmarnock Fever Hospital and Infirmary; Walmer, Kilmarnock, N.B.

1881 MCHARDY, MALCOLM MACDONALD, Ophthalmic Surgeon to King's College Hospital; 5, Savile Row, W. *Trans.* 1.

1882 MACKENZIE, FREDERIC MORELL; 10, Hans Place, S.W.

Orig. Memb. MACKENZIE, MORELL, M.D., Physician to the Hospital for Diseases of the Throat; 19, Harley Street, Cavendish Square, W. *Trans.* 4.

1879 MACKENZIE, STEPHEN, M.D., Physician (with charge of out-patients) to, and Lecturer on Medicine at, the London Hospital; 26, Finsbury Square, E.C. *Trans.* 6.

1879 MACLAGAN, THOMAS JOHN, M.D., 9, Cadogan Place, Belgrave Square, S.W.

1875 MACNAMARA, CHARLES, Surgeon to the Westminster Hospital; 13, Grosvenor Street, W. (C. 1879–81.)

1879 MAGILL, JAMES, M.D., M.C., Surgeon, Coldstream Guards; Coldstream Guards Hospital, Vincent Square, Westminster, S.W.

1874 MAHOMED, FRED. AKBAR, M.D. (C.), Assistant Physician to Guy's Hospital; 12, St. Thomas's Street, Southwark, S.E. (C. 1883.) *Trans.* 3.

ELECTED

1881 MAKINS, GEORGE HENRY, St. Thomas's Hospital, Albert Embankment, S.E.

Orig. Memb. MARCET, WILLIAM, M.D., F.R.S., 39, Grosvenor Street, W. (C. 1867–9.) *Trans.* 1.

1868 MARSH, F. HOWARD (C.), Assistant Surgeon to St. Bartholomew's Hospital, and Surgeon to the Hospital for Sick Children; 36, Bruton Street, Berkeley Square, W. (C. 1876–7, 1881–83, S. 1878–80.) *Trans.* 9.

1875 MARSHALL, F. J., Resident Medical Officer, St George's Hospital, W.

1868 †MAY, EDWARD HOOPER, M.D., High Cross, Tottenham, Middlesex, N.

1868 MEADOWS, ALFRED, M.D., Physician-Accoucheur to, and Lecturer on Midwifery at, St. Mary's Hospital; 27, George Street, Hanover Square, W. (C. 1871-4.) *Trans.* 1.

1876 MELLADEW, H. F. L., M.D., Surgeon-Major, Royal Horse Guards; Hyde Park Barracks, W.

1878 MEREDITH, WILLIAM APPLETON, M.B., C.M., Surgeon to the Samaritan Free Hospital for Women and Children; 6, Queen Anne Street, Cavendish Square, W.

1873 MICKLE, WILLIAM JULIUS, M.D., Physician Superintendent, Grove Hall Asylum, Bow, E.

1877 MILNER, EDWARD, Surgeon to the Lock Hospital 32, New Cavendish Street, Portland Place, W.

1882 MONEY, ANGEL, M.D., Hospital for Sick Children, Great Ormond Street; 14, Langham Place, Regent Street, W.

1874 MORGAN, JOHN HAMMOND (C.), Assistant Surgeon to the Charing Cross Hospital, and to the Hospital for Sick Children, Great Ormond Street; 68, Grosvenor Street, W. (C. 1883.) *Trans.* 2.

1877 MORRIS, HENRY, M.B., Surgeon to, and Lecturer on Surgery at, the Middlesex Hospital; 2, Mansfield Street, Portland Place, W. *Trans.* 5.

1877 MORRIS, MALCOLM ALEX., Lecturer on Skin Diseases at St. Mary's Hospital; 63, Montagu Square, W. *Trans.* 1.

ELECTED

1879 MOULLIN, CHARLES W. MANSELL, Assistant Surgeon to the London Hospital; 69, Wimpole Street, Cavendish Square, W.

Orig. Memb. MOXON, WALTER, M.D., F.L.S., Physician to, and Lecturer on Medicine at, Guy's Hospital; 6, Finsbury Circus, E.C. (C. 1874–6.) *Trans.* 2.

1878 MUIR, JAMES C. P., 44, Cornwall Road, Westbourne Park, W.

1875 MURPHY, SHIRLEY F., 158, Camden Road, N.W.

1883 MURRAY, HUBERT MONTAGUE, M.B., Gothic Villa, Canonbury, N.

1868 MYERS, ARTHUR BOWEN RICHARDS, Surgeon to 1st Battalion of the Coldstream Guards; Vincent Square, Westminster, S.W. (C. 1877–9.) *Trans.* 1.

1882 MYERS, A. T., M.D., 24, Clarges Street, Piccadilly, W.

1873 MYRTLE, ANDREW S., M.D., Harrogate.

1874 NANKIVELL, ARTHUR WOLCOT, Resident Surgeon, St. Bartholomew's Hospital, Chatham.

1875 NETTLESHIP, EDWARD, Ophthalmic Surgeon to and Lecturer on Ophthalmology at, St. Thomas's Hospital; 5, Wimpole Street, Cavendish Square, W. (C. 1881–82.) *Trans.* 2.

Orig. Memb. NORTON, ARTHUR TREHERN, Surgeon to, and Lecturer on Surgery at, St. Mary's Hospital; 6, Wimpole Street, W. (C. 1874–6.) *Trans.* 6.

Orig. Memb. NUNN, THOMAS WILLIAM, Consulting Surgeon to the Middlesex Hospital; 8, Stratford Place, Oxford Street, W. (C. 1873–74.) *Trans.* 5.

1880 O'CONNOR, BERNARD, M.D., Physician to the North London Hospital for Consumption, and Physician to the Westminster General Dispensary; 40, Brook Street, Grosvenor Square, W. *Trans.* 1.

Orig. Memb. OGLE, JOHN WILLIAM, M.D., Consulting Physician to St. George's Hospital; 30, Cavendish Square, W. (C. 1867–8.) *Trans.* 6.

1868 †OGLE, WILLIAM, M.D., Physician to the Derbyshire General Infirmary; 98, Friar Gate, Derby.

1883 OLIVER, GEORGE, M.D., West End Park, Harrogate.

1868 OPPERT, FRANCIS, M.D.; Germany. *Trans.* 1.

ELECTED

1877 ORD, WILLIAM MILLER, M.D. (C.), Physician to, and Lecturer on Medicine at, St. Thomas's Hospital; 7, Brook Street, Hanover Square, W. (C. 1882–3.) *Trans.* 5.

1883 OSWALD, J. W. ROBERT, L.R.C.P. Ed., 48, Clapham Road, S.W.

1877 OWEN, ISAMBARD, M.D., Assistant Physician to St. George's Hospital; 41, Gloucester Gardens, Bishop's Road, W. *Trans.* 1.

1875 PAGE, HERBERT W., M.C., M.B., Surgeon (with charge of Out-patients) to, and Joint-Lecturer on Surgery at, St. Mary's Hospital; 146, Harley Street, W. (C. 1882–3.) *Trans.* 1.

1873 PARKER, ROBERT WILLIAM (C.), Assistant Surgeon, East London Hospital for Children; 8, Old Cavendish Street, W. (C. 1882–3.) *Trans.* 6.

1881 PARKER, RUSHTON, M.B., Professor of Surgery in University College, Liverpool, and Assistant Surgeon Liverpool Royal Infirmary; 61, Rodney Street, Liverpool. *Trans.* 1.

1881 PASTEUR, WILLIAM, 19, Queen Street, May Fair, W.

Orig. Memb. PAVY, FREDERICK WILLIAM, M.D., F.R.S. (V.P.), Physician to, and Lecturer on Medicine at, Guy's Hospital; 35, Grosvenor Street, W. (C. 1869–71, V.P. 1882–3.) *Trans.* 3.

1879 PEEL, ROBERT, 130, Collins Street East, Melbourne, Victoria.

1882 PEPPER, AUGUSTUS JOSEPH, M.S., M.B., Surgeon to St. Mary's Hospital; 122, Gower Street, W.C. *Trans.* 1.

1874 PHILLIPS, CHARLES DOUGLAS F., M.D., 10, Henrietta Street, Cavendish Square, W.

Orig. Memb. PICK, THOMAS PICKERING, Surgeon to, and Lecturer on Surgery at, St. George's Hospital; Surgeon to the Belgrave Hospital for Children; 13, South Eaton Place, Eaton Square, S.W. (S. 1874–7, C. 1878–80.) *Trans.* 3.

1871 †PLAYNE, ALFRED, M.B., Maidenhead.

1868 POLLOCK, JAMES EDWARD, M.D., Physician to the Hospital for Consumption and Diseases of the Chest; 52, Upper Brook Street, Grosvenor Square, W. (C. 1878–80.)

ELECTED

1871 POORE, GEORGE VIVIAN, M.D., Professor of Medical Jurisprudence in University College, and Assistant Physician to University College Hospital; 30, Wimpole Street, W. (C. 1879–81.) *Trans.* 2.

1873 PORT, HEINRICH, M.D., Physician to the German Hospital; 48, Finsbury Square, E.C.

1881 POWELL, H. A., M.A., Elm Cottage, Beckenham, Kent.

Orig. Memb. POWELL, R. DOUGLAS, M.D., Physician to the Middlesex Hospital; Physician to the Hospital for Consumption and Diseases of the Chest, Brompton; 62, Wimpole Street, Cavendish Square, W. (C. 1874–76.) *Trans.* 4.

1868 PRENTIS, CHARLES, Surgeon-Major, Bengal Medical Service; India.

Orig. Memb. QUAIN, RICHARD, M.D., F.R.S., Consulting Physician to the Hospital for Consumption and Diseases of the Chest; 67, Harley Street, W. (C. 1867–9.)

Orig. Memb. RAMSKILL, J. SPENCE, M.D., Consulting Physician to the London Hospital; Senior Physician to the National Hospital for the Paralysed and Epileptic; 5, St. Helen's Place, Bishopsgate Street, E.C.

1873 RANSFORD, GIFFORD; 27, Gloucester Place, Hyde Park, W.

1868 RASCH, ADOLPHUS A., M.D., Physician for Diseases of Women to the German Hospital; 7, South Street, Finsbury Square, E.C.

1877 RAYNER, HENRY, M.D., Lecturer on Mental Diseases at St. Thomas's Hospital; Middlesex County Lunatic Asylum, Hanwell, W.

1874 REE, FREDERICK G., Royal India Asylum, Ealing, W.

Orig. Memb. REES, GEORGE OWEN, M.D., F.R.S., Consulting Physician to Guy's Hospital; 26, Albemarle Street, Piccadilly, W. (V.P. 1871–3.)

1868 REEVES, HENRY A., Assistant Surgeon to the London Hospital; 78, Grosvenor Street, W. *Trans.* 2.

Orig. Memb. REYNOLDS, JOHN RUSSELL, M.D., F.R.S., Consulting Physician to University College Hospital; 38, Grosvenor Street, W. (C. 1867–8.)

1868 RICE, MICHAEL W., M.D. (C. 1876–8.)

1883 RING, EDMUND CUTHBERT, Salisbury Club, 10, St. James' Square, S.W.

ELECTED

Orig. Memb. RINGER, SYDNEY, M.D., Professor of the Principles and Practice of Medicine in University College, and Physician to University College Hospital; 15, Cavendish Place, W. (C. 1871–2.)

1877 RIVINGTON, WALTER, M.S., M.B., Surgeon to, and Lecturer on Anatomy at, the London Hospital; 22, Finsbury Square, E.C.

1873 †ROBERTS, DAVID LLOYD, M.D., Physician to St. Mary's Hospital, Manchester; 23, St. John Street, Manchester.

1875 ROGERS, WILLIAM RICHARD, M.D., 56, Berners Street, Oxford Street, W.

1877 ROTH, BERNARD M. S., 48, Wimpole Street, W., and Rossmore, Preston Road, Brighton. *Trans.* 1.

Orig. Memb. ROUSE, JAMES, Surgeon to St. George's Hospital, and to the Royal Ophthalmic Hospital, Charing Cross; 2, Wilton Street, Grosvenor Place, S.W. (C. 1875–7.) *Trans.* 1.

1874 ROWLAND, EDWARD R., Pelham Lodge, Isleworth.

1882 SAINSBURY, HARRINGTON, M.D., 62, Guilford Street, Russell Square, W.C.

1868 SANDERSON, HUGH JAMES, M.D., 26, Upper Berkeley Street, W.

Orig. Memb. SANDERSON, JOHN BURDON, M.D., F.R.S., Waynflete Professor of Physiology at the University of Oxford; Museum, Oxford. (S. 1867–9, C. 1870, V.P. 1871–3.) *Trans.* 3.

1878 SANGSTER, ALFRED, M.B., Lecturer on Skin Diseases at the Charing Cross Hospital; 6, Savile Row, W. *Trans.* 4.

1873 SAVAGE, GEORGE HENRY, M.D. (C.), Bethlem Royal Hospital, St. George's Road, S.E. (C. 1882–3.)

1877 SEATON, EDWARD, M.D., Physician to the Nottingham General Dispensary; 8, Oxford Street, Nottingham

1869 SEDGWICK, LEONARD WILLIAM, M.D., 2, Gloucester Terrace, Hyde Park, W. (C. 1879–81.)

1878 SEMON, FELIX, M.D., Assistant Physician for Diseases of the Throat to St. Thomas's Hospital; 59, Welbeck Street, Cavendish Square, W. *Trans.* 4.

1875 SHERWOOD, ARTHUR PAUL, Eastbourne.

ELECTED

1876 SHUTER, JAMES, Assistant Surgeon to St. Bartholomew's Hospital, and to the Royal Free Hospital; 58, New Broad Street, E.C. *Trans.* 1.

Orig. Memb. SIBLEY, SEPTIMUS WILLIAM, 7, Harley Street, Cavendish Square, W. (C. 1871–4.)

Orig. Memb. SIMON, JOHN, C.B., D.C.L., F.R.S., Consulting Surgeon to St. Thomas's Hospital; 40, Kensington Square, W. (V.P. 1867–70.)

1879 SKERRITT, EDWARD MARKHAM, M.D.; Coburg Villa, Richmond Hill, Clifton, Bristol. *Trans.* 2.

1877 SKINNER, WILLIAM A., 45, Lower Belgrave Street, Eaton Square, S.W.

1872 SLIGHT, GEORGE, M.D., 3, Clifford Street, Bond Street.

1882 SMITH, E. NOBLE, Senior Surgeon, and Surgeon to the Orthopædic Department, of the Farringdon Dispensary; 24, Queen Anne Street, Cavendish Square, W.

1875 SMITH, GILBART, M.A., M.D. (C.), Assistant Physician to the London Hospital; Physician to the Royal Hospital for Diseases of the Chest, City Road; 68, Harley Street, Cavendish Square, W. (C. 1883.)

1868 SMITH, HEYWOOD, M.D., Physician to the Hospital for Women, and Physician to the British Lying-in Hospital; 18, Harley Street, Cavendish Square. W.

1868 SMITH, PROTHEROE, M.D., Physician to the Hospital for Women; 42, Park Street, Grosvenor Square, W.

Orig. Memb. SMITH, THOMAS, Surgeon to, and Lecturer on Clinical Surgery at, St. Bartholomew's Hospital, and Surgeon to the Hospital for Sick Children; 5, Stratford Place, Oxford Street, W. (C. 1869–71, V.P. 1880–82.) *Trans.* 13.

1873 SMITH, WILLIAM JOHNSON, Surgeon to the Seamen's Hospital, Greenwich, S.E.

1873 SMITH, WILLIAM WILBERFORCE, M.D., 14, Stratford Place, Oxford Street, W.

1868 SNOW, WILLIAM V., M.D., Richmond Gardens, Bournemouth.

Orig. Memb. SOUTHEY, REGINALD, M.D., Commissioner on Lunacy, 6, Harley Street, Cavendish Square, W. (C. 1867–70, 1876–8, S. 1873–5, V.P. 1883.) *Trans.* 16.

ELECTED

1882 SPOONER, FREDERICK HENRY, M.D., Howard House, Clapton, E.

1876 SQUIRE, BALMANNO, M.B., 24, Weymouth Street, Portland Place, W. *Trans.* 5.

1879 STAPLES, FRANCIS PATRICK, late Assistant Professor of Military Surgery, Netley; Army Medical Department, Royal Victoria Hospital, Netley, and Junior Army and Navy Club, Grafton Street, Piccadilly [Station Hospital, Gibraltar].

1881 STARTIN, JAMES, 16A, Sackville Street, Piccadilly, W.

1871 STEWART, WILLIAM EDWARD, 16, Harley Street, Cavendish Square, W.

1874 †STIRLING, EDWARD C., M.D., late Assistant Surgeon to, and Lecturer on Physiology at, St. George's Hospital; Adelaide, South Australia [care of T. GEMMELL, Esq., 32, The Grove, Boltons, S.W.]

1881 STOKES, HENRY FRASER, 258, St. Paul's Road, Highbury.

1878 STOKES, WILLIAM, M.D., Professor of Surgery, Royal College of Surgeons, Ireland; Surgeon to the Richmond Surgical Hospital; 5, Merrion Square North, Dublin. *Trans.* 2.

1878 STRUGNELL, FREDERICK WILLIAM, 45, Highgate Road, Highgate, N.

1878 †STURGE, WILLIAM ALLEN, M.D., late Assistant Physician to the Royal Free Hospital; 9, Rue Longchamp, Nice, Alpes Maritimes, France. *Trans.* 4.

1872 *SUTHERLAND, HENRY, M.D., Lecturer on Insanity, Westminster Hospital; 6, Richmond Terrace, Whitehall, S.W. *Trans.* 1.

1868 SUTRO, SIGISMUND, M.D., Senior Physician to the German Hospital; 37A, Finsbury Square, E.C.

Orig. Memb. SUTTON, HENRY GAWEN, M.B., Physician to, and Lecturer on Pathology at, the London Hospital, and Physician to the City of London Hospital for Diseases of the Chest; 9, Finsbury Square, E.C. (C. 1878.) *Trans.* 2.

1882 SYMONDS, CHARTERS JAMES, M.S., Assistant Surgeon to Guy's Hospital; 16, St. Thomas's Street, S.E.

ELECTED

1868 TATHAM, JOHN, M.D., Assistant Physician to the Hospital for Consumption and Diseases of the Chest; 12, George Street, Hanover Square, W.

1878 TAYLER, FRANCIS THOMAS, B.A., M.B., 224, Lewisham High Road, S.E.

1875 TAYLOR, FREDERICK, M.D. (C.), Assistant Physician to, and Lecturer on Materia Medica at, Guy's Hospital; Physician to the Evelina Hospital for Sick Children; 11, St. Thomas's Street, Southwark, S.E. (S. 1879–81, C. 1882–3.) *Trans.* 8

1882 TAYLOR, SEYMOUR, M.D., St. Thomas's Hospital; 22, Taviton Street, Gordon Square, W.C.

Orig. Memb. TEEVAN, WILLIAM F. (C.), Mostyn Villa, Brockman Road, Folkestone, Kent. (C. 1880–2.) *Trans.* 8.

1882 THIN, GEORGE, M.D., 22, Queen Anne Street, Cavendish Square, W.

Orig. Memb. THOMPSON, EDMUND SYMES, M.D., Physician to the Hospital for Consumption and Diseases of the Chest; Gresham Professor of Medicine; 33, Cavendish Square, W. (C. 1880–82.) *Trans.* 1.

Orig. Memb. THOMPSON, Sir HENRY, Knt., Surgeon-Extraordinary to H.M. the King of the Belgians; Emeritus Professor of Clinical Surgery in University College; 35, Wimpole Street, W. (C. 1867–8.) *Trans.* 1.

Orig. Memb. THOMPSON, HENRY, M.D., Fellow of St. John's College, Cambridge; Consulting Physician to the Middlesex Hospital; 53, Queen Anne Street, W. (V.P. 1875–7.) *Trans.* 4.

1872 THORNTON, WILLIAM PUGIN, Surgeon to the Marylebone Dispensary; 6, Duchess Street, Portland Place, W. *Trans.* 5.

1876 THRUPP, JAMES GODFREY.

1877 TIBBITS, HERBERT, F.R.C.P. Ed., 68, Wimpole Street, Cavendish Square, W.

1874 TRAVERS, WILLIAM, M.D., 2, Phillimore Gardens, Kensington, W.

1882 TURNER, FRANCIS CHARLEWOOD, M.A., M.D., Physician to the London Hospital; 15, Finsbury Square, E.C.

ELECTED

1882 TURNER, GEO. ROBERTSON, Visiting Surgeon, Seamen's Hospital, Greenwich; Joint Lecturer on Practical Surgery, St. George's Hospital; 49, Green Street, Park Lane, W.

1877 TWEEDY, JOHN, Professor of Ophthalmic Medicine and Surgery at University College, and Assistant Ophthalmic Surgeon to University College Hospital; Assistant Surgeon to the Royal London Ophthalmic Hospital; 24, Harley Street, Cavendish Square, W.

1878 TYSON, WILLIAM JOSEPH, M.D.; 10, Langhorne Gardens, Folkestone. *Trans.* 4.

1881 UHTHOFF, JOHN CALDWELL, M.D., 46, Western Road, Hove, Brighton.

1868 VENNING, EDGCOMBE, 87, Sloane Street, S.W. (C. 1876–8.) *Trans* 2.

1868 WAGSTAFFE, WILLIAM WARWICK, Purleigh, St. John's Hill, Sevenoaks. (C. 1878.)

1875 WALSHAM, WILLIAM J. (C.), Assistant Surgeon to, and Demonstrator of Practical and Orthopædic Surgery at, St. Bartholomew's Hospital; Surgeon to the Metropolitan Free Hospital and to the Royal Hospital for Diseases of the Chest; 27, Weymouth Street, Portland Place, W. (C. 1882–3.) *Trans.* 2.

1870 WARWICK, RICHARD ARCHER, M.D., Surgeon to the Richmond Infirmary; 5, Hill Rise, Richmond, S.W.

1876 WATERS, JOHN H., M.D., 101, Jermyn Street, St. James's, S.W.

1868 WATKINS, EDWIN T., M.D. (C.), 61, Guilford Street, W.C. (C. 1881–83.)

Orig. Memb. WATSON, WILLIAM SPENCER, M.B., Surgeon to the Great Northern Hospital; Surgeon to the Royal South London Ophthalmic Hospital; 7, Henrietta Street, Cavendish Square, W. (C. 1880–82.) *Trans.* 10.

1879 WATTEVILLE, ARMAND DE, M.A., M.D., B.Sc., Medical Electrician to St Mary's Hospital; 30, Welbeck Street, W.

Orig. Memb. WEBER, HERMANN, M.D., Physician to the German Hospital; 10, Grosvenor Street, W. (C. 1867–71, V.P. 1873–5.) *Trans.* 9.

ELECTED

1876 WEIR, ARCHIBALD, M.D., St. Mungho's, Great Malvern.

1868 WELLS, SIR THOMAS SPENCER, Bart., Surgeon in Ordinary to H.M.'s Household; Surgeon to the Samaritan Free Hospital; 3, Upper Grosvenor Street, W. (C. 1873.)

1882 WEST, SAMUEL, M.D., Medical Registrar and Medical Tutor at St. Bartholomew's Hospital; Physician to the City of London Hospital for Diseases of the Chest, Victoria Park; Assistant Physician to the Royal Free Hospital; 15, Wimpole Street, Cavendish Square, W. *Trans.* 1.

1874 WHEELHOUSE, CLAUDIUS GALEN, Senior Surgeon to the Leeds General Infirmary, and Lecturer on Surgery, Leeds Medical School; Hilary Place, Leeds. *Trans.* 1.

1868 WHIPHAM, THOMAS TILLYER, M.B., Physician to, and Lecturer on Clinical Medicine at, St. George's Hospital; 11, Grosvenor Street, Grosvenor Square, W. (C. 1878–80.) *Trans.* 9.

1874 WHISTLER, W. M., M.D., 28, Wimpole Street, Cavendish Square, W.

1882 WHITE, EDWIN FRANCIS, St. Thomas's Hospital, and 10, Disraeli Road, Putney.

1883 WHITE, WILLIAM HENRY, M.D., 43, Weymouth Street, W.

1882 WHITTLE, EDWARD GEORGE, M.D., 65, Dyke Road, Brighton.

1871 WIGHT, GEORGE, M.B., C.M.; 428, Liverpool Road, N.

1879 WILCOX, HENRY, M.B., 170, Lewisham High Road, S.E.

Orig. Memb. WILKS, SAMUEL, M.D., F.R.S., Physician to Guy's Hospital; 72, Grosvenor Street, W. (C. 1871–2.) *Trans.* 1.

Orig. Memb. WILLETT, ALFRED, Surgeon to St. Bartholomew's Hospital; 36, Wimpole Street, W. (C. 1872–5.)

Orig. Memb. WILLIAMS, CHARLES THEODORE, M.D., Physician to the Hospital for Consumption and Diseases of the Chest; 47, Upper Brook Street, Grosvenor Square, W. (C. 1877–9.) *Trans.* 8.

ELECTED

1881 WILLIAMS, JOHN, M.D., Assistant Obstetric Physician to University College Hospital; 11, Queen Anne Street, Cavendish Square, W.

1870 WILLIAMS, WILLIAM RHYS, M.D., Commissioner in Lunacy; 19, Whitehall Place, S.W.

1876 WILLIAMSON, JAMES MANN, M.D.; Ventnor, Isle of Wight.

Orig. Memb. WILLIS, FRANCIS, M.D., Braceborough, Stamford.

1868 WILTSHIRE, ALFRED, M.D., Joint Lecturer on Obstetrics, and Assistant Physician-Accoucheur, St. Mary's Hospital. (C. 1880–82.) *Trans.* 1.

1880 WOOD, JOHN, F.R.S., Professor of Clinical Surgery in King's College, London, and Senior Surgeon to King's College Hospital; 61, Wimpole Street, Cavendish Square, W.

1879 WOODWARD, GEORGE P. M., M.D., Deputy Surgeon-General; Sydney, New South Wales.

1872 YEO, J. BURNEY, M.D. (C.), Physician to King's College Hospital; 44, Hertford Street, Mayfair, W. (C. 1881–3.) *Trans.* 4.

REPORT

OF THE

COUNCIL OF THE CLINICAL SOCIETY.

DECEMBER, 1882.

THE Council on making its Annual Report to the Society is able to record a continuance of successful work, an increase in the number of members, and a satisfactory financial condition.

During the past year twenty-two resident and six non-resident members have been elected. Five members have resigned, and five have become non-resident, making the total number of members 264 resident, and 81 non-resident.

The Council has to record with deep regret the death of Sir Thomas Watson, Bart., an honorary member, and the first president of the Society, to whose valuable aid much of its initial success was due. The Society has besides been deprived by death of four other members: Professor Pirrie, who was an honorary member in 1874, Dr. Peacock, an original member and formerly one of the vice-presidents, Mr. J. T. Clover, and Mr. R. W. Lyell.

At the commencement of the year the balance at the bankers' amounted to £138 12*s.* 5*d.*; after the discharge of all liabilities a balance of £160 2*s.* 2*d.* remains.

Two composition fees of fifteen guineas each having been paid, the Council has recommended an addition of £50 being made to the sum invested in Consols, which now therefore stands at £550.

The recent volume of *Transactions* contains forty-eight communications, including an elaborate report of the Com-

mittee nominated in 1879 to investigate the causes, consequences and treatment of Hyperpyrexia in Rheumatic Fever and other acute febrile diseases.

A diploma of honorary membership has been prepared and sent to the foreign honorary members recently elected, as well as to those who were already upon the list, and with the view of making this honour more ostensible than heretofore the Council resolved to have a die engraved by Messrs. Wyon at a cost of fifty guineas, with which the diplomas were sealed.

In addition to the arrangements previously made for the exhibition of living specimens, the Council has provided a card which should accompany each such specimen, and contain a brief description of the points it illustrates. But such exhibition "by card" is not intended to preclude members from sending in papers upon the cases exhibited as heretofore.

A Committee has been appointed to investigate the results of the treatment of the various forms of spina-bifida by the injection of iodo-glycerine solution.

CLINICAL SOCIETY OF LONDON.—BALANCE SHEET, 1881–82.

1881		£	s.	d.
	To balance from last account . . .	138	12	5
	„ 254 Subscriptions for 1881–82 . .	266	14	0
	„ 22 Admission fees of resident members .	46	4	0
	„ 6 „ „ of non-resident members	12	12	0
	„ 2 Composition fees	31	10	0
	„ 2 „ „ for 'Transactions' .	6	6	0
	„ Sale of 'Transactions' by Messrs. Longman	21	5	8
	„ Dividends on £500 Consols . . .	14	13	10
		£537	17	11

1881		£	s.	d.
	By Diplomas of Honorary Membership and Die of Seal	67	15	4
	„ Cost of printing, paper, and binding Vol. XV of 'Transactions'	114	8	6
	„ Cost of illustrating ditto . . .	58	9	6
	„ „ delivery ditto	6	11	5
	„ „ 50 Lists of Members . . .	1	7	0
	„ Payment to Royal Medical and Chirurgical Society for use of rooms . .	47	5	0
	„ Refreshments and attendance at meetings	31	10	0
	„ Payment to R. Coldrey for attendance .	7	10	0
	„ Printing and stationery	12	3	2
	„ Mr. Wheatley for secretarial work . .	9	9	0
	„ „ „ collection of subscriptions	11	17	6
	„ „ „ petty cash and postage	3	14	2
	„ Cost of advertising, and Messrs. Longmans' commission on sale of 'Transactions'	5	15	2
	„ Balance at Society's bankers . . .	160	2	2
		£537	17	11

Amount of Stock standing in the names of the Trustees, January 1, 1883 . £500 3 per cent. Consols.

CHRISTOPHER HEATH, *Treasurer.*

Audited and found correct { T. HENRY GREEN, ARTHUR E. BARKER, } *Auditors.*

J. WARRINGTON HAWARD, *Hon. Sec.*

PRESIDENT'S ADDRESS.

GENTLEMEN,—Another epoch in the history of the Clinical Society has come to an end, and a new epoch begins to-night with us. Standing thus between the past and the future—between the work which has been done, and the work which lies before us to do—the opportunity naturally offers, and we may profitably avail ourselves of it, to inquire somewhat concerning both. On former occasions of this kind you have been treated to dissertations on subjects occupying at the time the attention of the profession, to discourses on what may be called the "philosophy of clinical medicine," to delineations of the sorts of knowledge necessary to continued advancement in our art; and to eloquent exhortations to active, purposive, honest, clinical work. To-night for the short time that I shall presume to stand between you and the business which we are assembled to consider, I shall take humbler ground, and contenting myself with a short survey of the completed labours of the Society, I shall endeavour to elicit therefrom such fresh helps for future guidance as may enable us to make our printed *Transactions* still more worthy of the work wherewith we are occupied, and of the workers therein.

It seems to me after a careful examination of the contributions made to the *Transactions* of the Society during the

reign of my illustrious predecessor, that both in matter and in manner, in abiding interest and in clinical importance, and fertility of practical suggestions and in successful boldness of the operative procedures recorded therein, the volumes embodying those contributions will bear favourable comparison with any like number of volumes which have been issued before them. I have discovered in this later work no decay of earnestnesss or of strength, none of faith or of knowledge, none of foresight or of judgment; and in some ways, as in the recognition of clinical affections unconnected with sensible anatomical changes, it has taken, as I at least am convinced, higher and truer ground.

Examining the whole series of our *Transactions*, and calling to mind the character of the discussions elicited by many of the papers, one cannot fail to become impressed with a vivid sense of the great and growing importance of the work which the Society is silently but surely doing. The general good results of the Society's work are now so obvious and have been so often mentioned that they need for remembrance only the barest notice. We see how, through diversity of inquiry, community of work, unity of purpose, and severity of procedure, we have improved our methods, added to our knowledge, established new connections, multiplied our resources, settled a surgical revolution, and widened, deepened, and in some quarters transfigured our views. All this is plain, and the statement of it may be open to the accusation of commonplace. But what is not so plain, and what is not commonplace, is the influence which the Society has exerted and is exerting upon the scientific character of individual workers; and this, although less obvious, is not less important. The Society has improved the scientific characters of good workers; it has implicitly exposed and repressed bad workers; and it has framed for the guidance of all alike a standard of work which is sensibly elevating the profession and benefiting our art.

In the work of the younger members of our profession I see, or at least I think that I see, greater care, patience, and accuracy in observation, a more rigorous fidelity in the record of therapeutical experiments, wiser caution in speculation, graver deliberation in judgment, a growing frankness in the confession of oversights and error, increasing severity in the siftings and testings of their own conclusions, a readier effacement of the personality in the work, less unseemly eagerness for mere priority of publication, a deepened sense of the responsibilities

of premature speech and writing, a rapidly abating bitterness in the conflicts of opposing views, a more robust and manlier spirit of scientific life, and less reluctance in making admission that there is no unconditional truth in the results of our inquiries—no finality in our finished work, no creed in medicine. But the Society has done more than train good workers; it has repressed bad workers. For one competent and conscientious worker there are ten who are incompetent and unconscientious, and who in divers ways hinder our progress and spoil our present possessions. Intolerant of the patient and painful toil of the true worker, acute in power of superficial observation, gifted with a certain showy versatility, quick at catching hold of new ideas, ingenious in guessing, crude in experiment, loose in therapeutic trials, hasty in speculation, strong in dogmatic assertions, accomplished in the transfiguration and use of other men's work, finding what they want wherever they seek it, unhindered by difficulties, facile in speech, ready in writing, thirsting for notice, such men, now, alas, not uncommon in medicine, beget papers so quickly that they can have no necessary relation to time, observation, or thought, and flood our literature with their unworthy if not unveracious lucubrations. The favourite hunting-ground of such men is therapeutics, and their favourite sport is the catching of remedies, the putting of them to new uses, and the setting forth of their successful results. These men discern no difficulties and have no failures; they can illustrate their successes by scores of cases, and explain them by the most ingenious theories. There is scarcely any limit to the extent or the variety of their achievements; and as they flaunt along in the fulness of self-satisfaction, they look down with pitying condescension upon those in the straight and narrow way who conscientiously toil with small success in seeking after truth, but who, nevertheless, missing the praise of men, find strength and solace in their sacred search.

Another great work of our Society has been, and continues to be, the gradual unfolding of the exact relations which morbid anatomy and, incidentally, experimental pathology should hold to clinical medicine. These two chief servants of our art, excited and carried away by their marvellous successes, and assuming a joint sovereignty over our art, look down with condescending superiority upon clinical medicine, ridicule her claims to supremacy, scoff at her empirical distinctions, reproach her with being unscientific, and strive to

torture her into a slavish subjection to their theories. But the true relation is not this; it is, indeed, the converse of it. For the structural change is not disease, it is not co-extensive with disease; and even in those cases where the alliance appears the closest, the statical or anatomical alteration is but one of other effects of physiological forces, which, acting under unphysiological conditions, constitute by this new departure the essential and true disease. For disease in its primary condition and intimate nature is in strict language dynamic; it precedes, underlies, evolves, determines, embraces, transcends, and rules the anatomical state. It may consist of mere changes in the relations of parts, of rearrangements of atomic groupings, of recurring cycles of vicious chemical substitutions and exchanges, of new conditions in the evolution and distribution of nerve force, and any or all of them may be invisible to the eye, inseparable from life, and undiscernible in death. Undoubtedly the appearance of a structural alteration in the course of disease introduces a new order of events, sets in action new combinations of forces, and creates disturbances which must be reckoned with, even as mechanical accidents of the pathological processes. But always behind the statical lies the dynamic condition; underneath the structural forms are the active changes which give them birth, and stretching far beyond the limits of pathological anatomy, and pervaded by the actions and interactions of multitudinous forces, there is a region teeming with manifold forms of disease unconnected with structural change and demanding the investigation which it would abundantly reward. It is in this mysterious and fertile region of dynamic pathogenesis that we come face to face with the primitive manifestations of disease, and learn how much knowledge from various sources is needed to understand it aright; it is here that we see how, without help from physics, chemistry, and biology, collecting, converging, and meeting in a common light, no single problem in disease can be completely solved; it is here that we are made to comprehend how the nature of a pathological product cannot be determined by its structural characters, but by the life history of the processes of which it is only a partial expression; it is here that we observe how, in therapeutic experiments, the laws of the race are conditioned and even traversed by the law of the individual; and it is here that we discover how clinical medicine is to become a science, and how she is already, beyond question, at once the mother and the mistress of all the medical arts.

And here in this relationship of processes to products, although only incidentally and inferentially touched by them, I must advert for a moment to the results of pathological experiments. As to their necessity and value in the progress of medicine there cannot be any justifiable doubt. But for whatever purpose they may be employed, however carefully they may be designed and executed, however successful may be the precaution taken to exclude error, experiments have their subtle difficulties and dangers which are perilous to truth, and cannot be wholly averted. By the prestige of precision, which often undeservedly they possess, undue weight is attached to their results, and by the assumption that in like conditions the results would be the same in man as in the lower animals, flagrant errors are committed and currency is given to false or inadequate generalisations. The experimenter interprets the results of his experiments by the light of their structural results; he forgets, or he ignores, the life-history of the processes by which they have been evolved, and he takes no account of the fact beyond controversy, that different clinical states find occasionally the same structural expression. In such circumstances doubt is inevitable, and it is only to clinical medicine that any just appeal for its solution can be made. To her at last all such experiments must be brought for trial; she must be their examiner, critic, interpreter, user, and judge. And no results of experiments can be made of any avail to medicine, or be used with safety in her service, until they have been filtered through the checks and counter-checks of clinical experience, and have responded to the tests and counter-tests of clinical trial. And had these principles exerted their just influence in the recent debates concerning questions of this kind, we should not have had a seton in the neck of a man taken as the parallel of a seton in the neck of a guinea-pig; we should not have had the artificial tuberculosis of the rodent declared to be identical with the natural tuberculosis of the child; we should not have had grey tubercles and caseous pneumonias pronounced, on the grounds of mere likeness of structure, to be of one and the same nature; and we should have been spared the sight of science drunken with success and drivelling with prophecies, soliciting the public on the common highway.

Of such examples of good work done by the Society there are many more known to myself that I could give if time permitted, and doubtless there are many more known to others

that I could not give because they have escaped my notice. But I have given enough to justify, and even to require, a little reckoning of our shortcomings. Happily, the Society has still its imperfections; and as they are unlikely to be easily remedied we shall not lack motives to endeavour, nor miss the reward which comes from rightly endeavouring.

One of the defects which I notice in the *Transactions* of the Society is an incompleteness, outside the immediate objects of interest, in the history of many of the cases recorded therein. If we are to make real use of a case, and if the case is to help us with other cases to make great and true advancement in our art, it must be given to us as a complete whole. We must have not only the family and personal history, but we must have also the nature, assemblage, and progression of symptoms elucidated by all the assistance that can be had from physics and chemistry, from the spectroscope and microscope, from physiology and experiments. I do not presume to say that incomplete cases are either valueless or unwelcome, for doubtless they have often an interest and value peculiarly their own; but I do say that for all the higher and truer objects of medicine our earnest and unfailing endeavour should be to make every case as complete as the collateral knowledge of the time will enable us to make it. Hence the necessity and value of purposive, concurrent, and co-operative work. Hence arose the great medical renaissance of Germany, when Virchow and Brucke, Ludwig and Traube, Meyer and Lieberkühn, Lehmann, and Helmholtz, bringing together the results of their critical and experimental studies in various departments of knowledge, resolved, as if by magic, some of the obscurest problems in physiology and medicine. But of all the defects in the work of the Society, the one which I consider to be at once the most important and the most inexplicable is the seemingly studied disregard, in the treatment of a patient's malady, of those minute conditions of his daily life which practically make or unmake health. So that special management being almost nothing, and special medication almost everything, it would seem as if physiological principles were of no account in therapeutics. But a more critical study of disease will soon convince us that this inference is unsound and its application incorrect. Putting aside for the moment inherited affections and parasitic maladies of whatsoever sort, I shall assume that chronic disease, a state of parts, and not a thing interposed between them, is the eventual outcome of continued violation,

conscious or unconscious, of physiological laws as they exist for the race, or as they are conditioned by the peculiarities of the individual organism. I shall further assume that those violations are not exceptional and gross, but daily and minute, and that their effects, infinitesimal from day to day, become visible only after longer periods of time, and so escape recognition, except by those who are trained to discern the causal connections of subtle things. And I shall furthermore assume that the organism, in virtue of the inherent forces maintaining its solidarity, tends to repair existing, and to repulse threatening disorders, and that when placed in favorable, and liberated from unfavorable physiological conditions, this tendency issues and ends in successful action.

And now let us take for illustration a case of primitive uncomplicated gastric catarrh. Assuredly it does not come without a cause, and it is not introduced from without, but begotten within. It is in fact engendered out of a more or less prolonged and perhaps petty violation of the laws of stomach digestion, and it is maintained by conditions which, although apparently too trivial to be worthy of notice, are yet sufficient to hinder the formation of healthy peptones, and to traverse the reparative powers of the organism. What is ordinarily done in such a case? The patient is told in a vague sort of way to have a light and nourishing diet, to take daily exercise, to avoid anxiety and overwork, and to try bismuth and alkalies with an occasional alterative aperient. Now, speaking, if I may be permitted to do so, from my own experience, it is certain that in such a case management is of more moment than medicine, and that without a rigid and even minute obedience to the physiological conditions of healthy digestion, the chances are small of a speedy and permanent recovery from the gastric catarrh. But the instruction of a "light and nourishing diet" admits of the widest diversity of interpretation, and with the most loyal desire for literal obedience, the patient, according to his age, habits and station in life, may be unwittingly guilty of doings the most conflicting and injurious. He may eat too often or too seldom, too hot or too cold, effervescent or still. And without a conscious but yet real and great departure from the intention of his instructors, and he may frequently refresh himself with cups of tea and coffee and make glad his heart by incidental glasses of wine or of beer.

Now there is a right way and a wrong way in the management of every such case; and although they lie so near each

other, and are so much alike that the distinction between them is not easy of discernment, it is necessary that the distinction shall be made. For it is upon giving or not giving a correct and minute attention to the physiological conditions affecting the quantity, quality, and character of the solid and liquid food, the times and the circumstances of eating and drinking, the amount of exercise, work, and sleep, and the adequate discharges of excrementitious functions, that our work will succeed or fail, that our case will turn for evil or for good, and that the patient will either recover his health or drift into permanent valetudinarianism.

If time permitted and the occasion would justify it, I could easily produce, from the records of our common experience in every department of medicine, illustrations the most various and conclusive, of the peril of neglecting and the profit of following minute physiological considerations in the treatment of disease. On this occasion I shall content myself with one.

Some eight years ago I was summoned to a consultation in South Kensington, where, in presence of the patient and his family, I met Dr. Andrew Stephen and Dr. Taylor. It appeared that the subject of our consultation, having been ill for many weeks, and growing rapidly worse, had been brought from Wales to London for further advice, and that the advice given was opposed to the feelings and convictions of the patient and his friends. The family therefore refused, without the help of another opinion, to carry out the proposed treatment; accordingly, with the acquiescence of the doctors, I was summoned to examine the patient, and to state my views, without previous consultation with my colleagues, but in their presence. The patient, a tall, stout man of sixty, with flushed face, suffused eyes, anxious countenance, and swollen legs, sat leaning forward in an arm-chair, partially undressed, breathing laboriously, and apparently in much distress. He complained of shortness of breath and palpitation, of confused sensation in his head and occasional dizziness; of general weakness and of indescribable depression. The patient had a loaded tongue, with fetid breath, and, although troubled with nausea, was able to take freely of food and drink. The abdomen was distended and the liver distinctly enlarged. There were frequent discharges of fetid gases from the bowels. The fæces, discharged twice or thrice daily, were dark, offensive, and unformed. The urine was scanty, pale, faintly acid, of a density of 1010, and slightly albuminous. The heart was large, flabby, murmurish, frequent, quick, and irregular in

time and force. The pulse was small, thready, irregular, and beating over a hundred times in a minute. The legs were œdematous, bluish-red, and cold. The cervical veins remained continuously distended. Both lungs were congested at their bases, and there was frequent cough, with frothy, and sometimes sanguinolent expectoration. Nothing worthy of note was discovered in the nervous system.

Inquiring now as to the treatment which was being pursued, I was told that in the opinion of all who knew him, and of all the doctors except the last who had been consulted about him, the patient was a man of naturally delicate constitution, that he needed constant keeping up, and that his chances of life were in direct proportion to the amount of support that he could take. Accordingly, he was taking food and wine every second hour, had iron, quinine, and strychnia three times daily, and, being increasingly thirsty, he drank milk-and-soda water without much regard to frequency or amount. Questioned as to my opinion of the patient's malady, and urged by my colleagues to say exactly what I thought, I replied that he was a man with deteriorated but not seriously diseased tissues and organs, and that he was in peril of death, not so much from his malady as from the means used for its cure, that he was being poisoned by food and wine, that he was in the condition of a fire having more coals put upon it than it could burn, and that his chimneys being choked he was in near danger of being suffocated with his own smoke. My colleagues agreeing with this view of the case, and the patient, after much discussion and explanation assenting, he was placed upon a precise and severe regimen. He was ordered to have four simple nursery sort of meals in the course of the day, to have an ounce of brandy diluted with eight parts of water at dinner and supper, to be restricted to two pints of liquid in the course of the twenty-four hours, to take nothing of any sort between meals, and as soon as he was able to move about the rooms in which he dwelt. In the way of drugs he was directed to take for a week or longer a grain of calomel at night, followed by a salient aperient on waking in the morning, and to have twice or thrice daily, two hours after food, infusion of gentian with bicarbonate of potash, iodide of potassium, tincture of digitalis and aromatic spirits of ammonia. For the first three days he was no better for this treatment. It tried him severely through the restriction of his liquids, and, declaring himself worse for it, he threatened to discontinue it, and to return to his former ways. But on the fifth

day he began to improve, and then, his confidence being gained, there was no further difficulty in continuing the treatment, which, when digestion improved, was added to by the administration of reduced iron with meals. At the end of three months the patient declared that he was well, and all that could be said against him was that he had a weakish heart, that he was breathless upon exertion, that he had rather inadequate kidneys, and that to maintain his sense of well-being he was compelled to live by rule. This rule was a midday dinner with an ounce of brandy in half a pint of water, a moderate breakfast and tea, with eggs, or poultry, or fish, extreme moderation in the use of fluids, tepid sponging, warm clothing, gentle exercise, and early hours. Within a year I heard of the patient being in fair health and managing his ironworks in Wales. What I have since heard of him from time to time is instructive. Occasionally, losing his faith or lacking strength to follow his rules, he returns to the freedom for which he longs, frequents society, dines late, rejoices again in his wine, and has all that his heart desires. For a time all goes merrily and well, and he breaks sarcastic jokes over the heads of his physicians. But sooner or later this seeming well-being ceases, and his troubles reappear. The urine diminishes in density, and become albuminous; the heart loses its strength and regularity; the breathing is oppressed; the nights are sleepless and the days depressed; till at last, after much suffering, his obstinacy is conquered, and reconvinced, and humbled and penitent, he returns to his obedience and again recovers his health.

Such cases are common enough, and my experience forbids me to doubt that in fevers and inflammations, in hæmorrhages and acute diseases of every sort, the issue of particular cases turns oftener than we are perhaps ready to admit upon an adequate understanding of the physiological principles applicable to the removal of the conditions imperilling life, and upon the resolution and patience, the minuteness and fidelity, with which they are enforced. Such considerations are true and important, not only in diseases jeopardising life, but also in common disorders, which, although devoid of serious peril, invade our comfort, hinder our work, and dull our joy in life. I do not forget that through hereditary influences and unsuitable but inevitable environments many persons are doomed to be constantly ailing without being really ill; that their normal state is one of suffering; that no physiological readjustments and no specific medication can give to them the

pleasant sense of health; and that attempts to effect what is impossible issue only in greater suffering or in disaster. But making full allowance for such cases, there remain countless numbers who are willing and eager to make any and every sacrifice necessary to recovery, and who are left to continue in suffering because the physiological principles and compensations applicable to their relief are derided, disregarded, or denied.

Reviewing anew the completed *Transactions* of the Society, I am struck with the inadequate representations found therein of that interesting and instructive group of clinical affections which is unconnected, except casually, with sensible structural alterations of the tissues and organs. The group contains numerous members of divers sorts, and I cannot doubt that every one of them would repay thorough investigation, with fresh additions to our knowledge of the origin, the nature, and the relations of disease. Many of them, familiar to experienced practitioners, have no sufficient recognition in medical literature; and a full account of them all would contribute more than any other account that I can imagine to a just understanding of the relations of dynamic to static conditions, and of physiological to pathological processes.

Let me make mention of such members of this group of affections as lie nearest my thoughts at this moment. And, first, there is the morning agony of middle-aged nervous people, often the precursor of melancholia. A man awaking at early dawn is conscious of undefinable malaise and unrest; his mental and moral outlook become dark and gloomy; aching pains arise in the limbs; unable to lie still, he tosses restlessly about his bed; the malaise deepens into distress, and he groans; a cold sweat breaks forth over all his body; and then in a few minutes the attack subsides, and the patient finds himself in his accustomed health and spirits. In the second place I will mention the temporary incomplete hemiplegias with aphasia, which, closely allied to migraine, occur often in women, and occasionally in men, otherwise healthy and strong. A woman, neither hysterical nor nervous, suddenly fails to see distinctly; the field of vision is invaded by moving zigzag lines of light, arranged either in circles or in forms resembling the outlines of a fortification; there are slight ringing noises in the ears, and trifling confusion of thought; numbness follows about the tip of the tongue, on one side of the lips and mouth, in the right thumb, and more rarely in the right leg; the connection between ideas and

their correlated words is interrupted: articulation falters; there is, perhaps, passing loss of power in the right hand or arm; the breathing and the pulsation of the heart are quickened; the feet and hands become moist and cold; and then, after a period of time varying from ten to thirty minutes, with or without a slight headache, the attack ends with a few deep sighs and a discharge of limpid urine. Curiously enough, when headache occurs early in attacks of this kind, and is severe, sickness soon follows; disturbances of speech, sensation, and motion seldom arise; and the distinctions which, in its fully developed form, separate this affection from migraine are obliterated. In the third place, there is the dry, barking cough of boys and girls about the age of puberty. This curious but not uncommon affection is characterised chiefly by recurring paroxysms of a dry guttural cough, which resembles the barking and, occasionally, the howling of a dog. This affection is usually associated with various slight disorders of the nervous system, and with defects of will; it is greatly influenced by the emotions, and sometimes instantaneously cured by sudden surprise or shock; it is occasionally so distressing to others that servants, and even friends, cannot stay in the house in which the patient dwells; it is only in a small degree amenable to treatment; lasts from three or four months to as many years, and ends, in my experience, always in complete recovery. In the fourth place, I would call attention to the cases grouped under the term renal inadequacy; cases in which, without discernable structural alterations of the kidneys, they are, nevertheless, incapable of producing a urine of sufficient density and of healthy constitution; cases in which the blood, getting charged with excrementitious matters, aud nutrition and innervation becoming thereby disordered, the patients suffer in general health, fall immediately into peril from attacks of acute disease, and cannot, with ordinary chances of success or of safety, undergo a common surgical operation. In the fifth place, I will mention the numerous and important cases occurring among young persons in whom, under the strain of prolonged competitive examinations and great excitement of any sort, the urine temporarily falls in density, loses its healthy characters, and becomes albuminous. Of the young men competing for places in the Indian Civil Service examination, I have ascertained, by repeated personal examination, that more than a tenth becomes albuminuric. And, not to weary you further with illustrations, necessarily imperfect, of this group of affections, I will con-

clude with merely mentioning the glycosuric storms which, without sensibly damaging the body or materially impairing health, come and go throughout a lengthened life; the gouty spasms of the diaphragm so often mistaken for some affection of the heart; and those strange cases of autachthonæmia, in which the blood, when divided into minute streams, is ready to clot on the slightest provocation from the structures around.

Next in importance to the work of the Society are the manner and circumstances in which that work is done. Under these heads many reflections occur to me as worthy of being submitted to your consideration; but the time at my disposal is so short, and the list of cases for consideration so long, that I must confine myself to the setting forth of a very few of them.

The general meetings of the Society have been well attended, but whilst the junior members have been conspicuous by their presence, the senior members have been conspicuous by their absence. This is much to be regretted for the sake of the work of the Society and the discipline of its members. The seniors themselves suffer in manifold ways from their non-attendance. They miss the stimulus which comes from contact with youthful enthusiasm; they slide into stereotyped habits of thought, expression, and work; they lose their receptivity; they cease to adjust themselves to their ever-varying environments, and thus they become old and the labour which should be life is transfigured into virtual death. The Society suffers; for it needs the large experience, the wide views, the sharpened insight, the cautious temper, the sober judgment of disciplined age, to control, regulate, and carry to their best issues the minuteness of detail, the flow of imagination, the hasty generalisation, the speculative passion, and the dogmatic fury of our fervid youth. The pleas of pressing occupation, and of consequent fatigue, are doubtless true, but nevertheless they must be disallowed; for no good can be got without sacrifice; and the sacrifice of ourselves, even at the cost of suffering, is the only, or at least the chief, occasion of getting the strength which we need for the greater purposes of our lives. . . .

Of late years there has arisen in the domains of general literature and of controversial theology a habit of dealing with the relations of ideas to words which is calculated to throw into confusion all the higher controversies of the time, and to inflict serious injury upon letters, the advancement of knowledge, and even the moral life of man. Under cover of

a particular word, connected by long usage and by common consent with a sufficiently definite idea, a new idea, totally different from the old, is introduced, and is then used as if the one had become merged into the other, and as if there were no doubt or difference between them. For example: By a religious man most people would understand a person devoutly loyal to his ideal of a Divine Ruler of the universe, and fervent in his endeavours to die to himself that thereby he might live to God. But in these days all this is being changed: a man who is emotionally interested in anything —in art, or physics, or science—is a religious man. His sanctity is to be measured by his fervour; and morality has just this relation to this religion that, if it interferes with its culture, so much the worse for morality, which is a defect or a disorder that forthwith must be thrust aside. Now this juggling with words and ideas—this throwing of dust into people's eyes so that controversies which cannot be settled may be stifled—this unpardonable sin in literature, is threatening to invade the realms of medicine, to confuse our discussions, and to render hopeless our progress in some departments of knowledge. For instance, the word tubercle is now often so used as to comprehend the most diverse ideas, and to give apparent reconciliation to the most conflicting views. One may not object to an author using in his works words in the sense, usual or unusual, in which he has defined them; but one must protest with all one's power against the habit of a man who puts on the clothes of another man and struts along the common highway pretending to be him. . . .

A few more words upon a different aspect of the working of our Society and I will hasten to a conclusion. The cases recorded in our *Transactions* are for the most part admirable. It cannot justly be said of any one of them that it is destitute of interest or of instruction; many are fertile in fresh expedients for treatment or conclusive in their bearing upon questions still contested or unsettled, and in not a few one finds the spell of original, creative, and far reaching thoughts. But however highly we may rate the value of any one of those cases standing by itself, its value for every purpose conceivable in our relation to it would be doubled standing side by side with a record of the debate which the case had excited. For thus we should secure various views corrective or confirmatory of the position taken up by the narrator of the case, and we should obtain in this way what we can rarely, if ever, obtain in any other way, the ripe experience, judg-

ment, and wisdom of busy practical and successful men. For the literary and practical faculties are seldom combined in one person, nay, in the course of time there often arises a sort of antagonism between them. The man who can observe, collect, classify, reason, invent, apply, is often through the direction of nature or the force of circumstances deficient in the qualifications necessary in one who is to speak and write with ease. His habit of accumulating and using knowledge for practical purposes weakens the power of methodical exposition, so that from his improving treasury we get fewer gifts, and the habit of continuous literary effort is not only neglected but shunned. And yet these are the very men whose knowledge is in an especial manner worth the getting; these are the men whose halting words straight from the watching and questioning of nature are oftentimes more precious than eloquent speeches; these are the men whose experiences worked into a few clear ideas, packed into a few awkward sentences and spoken in so many minutes, will sometimes bring to a conclusive close the discussions of many days. And when you cannot induce such men to write, you may tempt them successfully to speak, and the temptation will not be made more difficult, nor the responsibility in speaking less, by the knowledge that their words will be preserved in that storehouse of facts, experiments, and reflections which this Society will give to the generations that follow after this.

And as of like, although not equal importance, I shall venture to ask the Council to permit the publication in the *Transactions* of the reply made by the author of a paper to the criticisms which it has elicited. After reading in one of our journals the record of some interesting and important debate in which various, and perhaps contradictory, views have been advanced, we are told that "the author having replied, the Society adjourned." But what the author exactly said, how he dealt with the facts, cases, and criticisms adverse to his views, what he admitted or what he refuted, whether the case collapsed or succeeded, we are not informed. And thus, deprived of the most important evidence of the most important witness, we decide the case not according to evidence, which is incomplete, but according to prepossessions, which neither necessarily nor usually influence us aright.

And now that our work awaits us, let us turn to it with justly attempered minds. For surely the burden of it is not mere occupation or interest, not mere success or failure, not mere profit or loss, not mere distinction for ourselves, nor even

honour for the profession to which we belong. The true and serious burden of our work as we smoothly say so often, and entirely realise so seldom, is the prevention of disease, the relief of suffering, and the prolongation of life. And this is the burden of it, not in a loose or general sense, but in a solemn and particular sense; it is the burden of it as it affects not merely many persons, but one person, one with whom we have to deal as if he were the sole object of interest and importance in the world, as if all the momentous possibilities of life and death, of the preservation or the destruction of the family life, and of all the good or evil which might issue out of recovery or of death, were centred in him, and depending upon us. Important as our work thus is to the life and welfare of the individual and the family, it is not less important to the life and welfare of the State and the world. For this work, as it is sound or unsound, successful or unsuccessful, affects, for good or evil, the numbers of the population and its physical constitution, the supply of labour and the sources of wealth, the education of the young and the direction of their energies, the moral conditions of society and the objects of political organisations, the development of the race and the fulfilment of its destinies. Such reflections, common as they are, serve to remind us of what our familiarity with them makes us forget—the momentous and far-reaching influences of our work, and of the solemn responsibilities which lie upon us in undertaking and discharging it. Such reflections may further help us to cherish the spirit of self-sacrifice in active endeavours to overcome our ignorance of disease, till at last, with fulness more or less, knowing and foreseeing, preventing or controlling, stilling pain or curing disease, repulsing death and renewing the conditions of continuing life, we may justify the boast of our father, Hippocrates, and to men in their extremities of need give help like gods.

I cannot close these desultory and imperfect remarks without adverting to the honour which you have conferred upon me in electing me to the presidential chair. It is an honour which, although unanticipated and unsought, is not unvalued. I regard it, indeed, as the highest honour which I or any physician could receive. For titular honours may be got by royal favour or the influence of a great minister, or may fall upon one through accidents of position and of service. But this honour no favour, influence, or accident can purchase. It is a spontaneous gift of the profession, and the recipient of the

honour must be free from grave reproach, and at least credited with some sort of merit.

I do not deceive myself with the thought that I am sufficiently worthy of this great honour, nor do I forget that there are others before me worthier of it than I. But I am not here to night to quarrel with your judgment; humbly and gratefully accepting it, I shall strive to justify it by endeavouring in singleness of heart and fervour of purpose to co-operate with you in the divine work which you are doing for the relief of suffering, the advancement of knowledge, and the higher discipline of ourselves for the better service of both.

COMMUNICATIONS.

I.—*Cases of Phthisis treated by Residence at High Altitudes.* By C. Theodore Williams, M.D. *Read October* 13, 1882.

THE subject of the treatment of phthisis by residence at high altitudes has never, to my knowledge, been discussed by this Society, and as the study of the influence of various therapeutic agents, including that of climate, is one of the objects it has in view, I venture to bring forward the following cases to demonstrate some of the results of mountain treatment.

Dr. H., æt. 30, was seen by me in consultation with Dr. Vereker Bindon August 30, 1881. He stated that there was no consumption in his family, and that he had been engaged in general practice in London for several years, and had a large proportion of midwifery cases. He had been subject to cough for three or four years, which, after slight hæmoptysis occurring one year ago, had become persistent, and had been accompanied by some wasting, especially in the last seven weeks, when he had lost four pounds. Three weeks ago, after a visit to the theatre, he again had slight hæmoptysis, amounting only to two drachms, and since that time the expectoration has been occasionally streaked with blood. He has noted that his temperature on more than one occasion has risen to 100° F. He has repeatedly tried to digest milk and cod-liver oil, but has always failed. Aspect anxious and weary; complexion pallid; cough very troublesome, expectoration yellow; pulse 64; tongue clean.

Physical signs.—Left chest: dulness over upper third, front and back, most marked behind; fine crepitation audible above the scapula.

He was recommended to take iodide of potassium and

hypophosphite of lime, and to spend the following winter season at Davos.

On October 22 (immediately before starting for Davos) I took a cyrtometric tracing of his chest at the level of the third rib, and made the following measurements at the close of ordinary expiration:

	Right.	Left.
At the level of the second rib . .	18½ in.	18 in.
„ „ mamma . . .	18 „	17¼ „
„ „ ensiform cartilage .	17 „	16¼ „

Auscultation showed a diminution of the crepitation, but the dulness remained the same.

March 24, 1882.—Has lately returned from Davos (5200 feet) where he has spent the winter, with the exception of two excursions to St. Moritz (6200 feet). So that he has spent nearly five months at high altitudes. During this period he has had an excellent appetite, has eaten well of meat, has digested three pints of milk daily as well as cod-liver oil and Fellows' syrup of hypophosphites, and has been able to take a great deal of exercise, such as walking, skating, tobogginning, and climbing. During a walking tour of seventeen days he averaged twelve miles a day, and states that the further he went, the more strength he seemed to gain, and he records that during the month, of which these seventeen days formed, as it were, the middle period, he increased more than eight pounds in weight.

On his return from the walking excursions he caught a bad cold while assisting at a post-mortem examination, and his cough and expectoration increased.

Dr. H. has sponged with cold water every morning, and occasionally used stimulating liniments to the chest.

During the first fortnight at Davos he suffered from difficulty of breathing, there being an unsatisfied desire for deep respirations; the rate of breathing, which had been 17 in London, increased to 21 at Davos, afterwards gradually falling to 16.

The total gain of weight is one stone, and there has been considerable increase in muscular development, especially in the arms; pallor has been exchanged for browning. His respiratory powers are good. He can mount hills and stairs well. His pulse, which was 74 at Davos, is now 64 and strong. His respirations are 15. Temperature normal.

Physical signs.—Right chest: good resonance and breathing throughout, though the latter is rather harsh.

Left chest: *anteriorly,* resonance has taken the place of the dulness above mentioned. Breath sounds are not very distinct. Tubular expiration audible above the clavicle. *Posteriorly,* dulness somewhat diminished, but is still to be found in the suprascapular and scapular regions. Crepitation only to be detected on cough over a small portion.

The subjoined cyrtometric tracing (Fig. 1, p. 4) gives the changed dimensions of the thorax, line 1 indicating the tracing taken before, and line 2 after his residence at Davos.

The antero-posterior and transverse diameters are as follows, at level of the third rib:

		Increase.
From spine to sternum (A) . . .	9½ in.	½ in.
Right antero-posterior diameter (taken 3 inches to right of central line) (B) .	9 „	⅛ „
Left antero-posterior diameter (3 inches to the left of central line) (C) . . .	9¼ „	⅝ „
Transverse diameter (D)	13⅜ „	1¼ „

From these it appears that the thorax increased in antero-posterior diameters to the extent of half an inch, and transversely to the extent of an inch and a quarter.

The following tape measurements were taken of the circumference at the various levels.

	Right.	Left.
At the level of the second rib . .	19⅛ in.	18⅛ in.
„ „ mamma . . .	19½ „	17½ „
„ „ ensiform cartilage .	17 „	17¼ „

This compared with former measurements gives an increase for the entire circumference—

At the level of the second rib	1⅛ in.
„ „ mamma	1¾ „
„ „ ensiform cartilage . . .	½ „

June 1, 1883.—Dr. H. has spent a winter at St. Moritz (6200) feet, and in spite of hard professional work has maintained or even improved his health. He has still slight morning cough and expectoration. His walking powers are excellent. There is still dulness and tubular expiration over the portions of the left chest before indicated, but all crepitation has disappeared. His weight is 11 st. 10 lb. Pulse 64. Respirations 12 to 14. The chest measurements and tracing show no change from those of last year.

Remarks.—The improvement in Dr. H.'s general condition,

Fig.1.

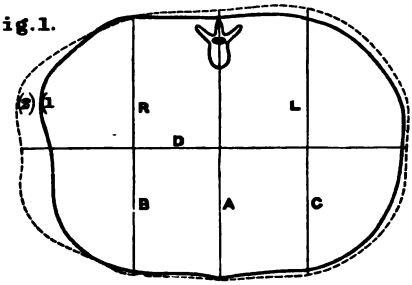


Fig.2.

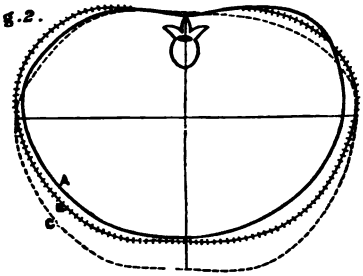
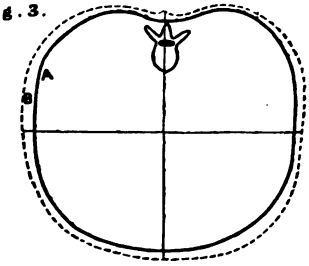


Fig.3.



the increase of vigour, colour, and digestive power, and the large gain of weight, may be fairly attributed to the influence of pure dry antiseptic air, combined with powerful sunshine, but it is not to these general effects of the higher altitude treatment on the system that I wish now to draw attention, but rather to the local changes in the thorax and its contents. These are:

1. Changes in the physical signs—the substitution, on the left side, of resonance for dulness, the diminution of crepitation, and the appearance of prolonged expiration. These point either to absorption of the consolidation, or to the development of emphysema around the tubercular mass, or to a combination of both, the emphysema being the principal element. On the right side the physical signs indicate more complete development or hypertrophy of the healthy lung.

2. The enlargement of the thorax as shown by the measurements. We must bear in mind that some of this is due to increase of fat and muscle, but the greater part must be assigned to distinct expansions of the chest-wall, arising from intra-thoracic pressure. Moreover, this expansion has been observed by Dr. Ruedi to occur in patients who have lost weight, and in others who certainly did not increase in either fat or muscle, and, what is most remarkable, is that its appearance coincides with the diminution of the respiration rate.

I wish to draw attention: 1st, to the limiting effect of the emphysema on the consolidation, and the valuable barrier it offers to local infective processes; 2nd, to the increased respiratory powers of patients, shown in Dr. H.'s case by his capacity for ascents. This I venture to assign to hypertrophy of the healthy lung tissue, a change due simply to its increased use.

The widening of the chest is not always permanent, for I have occasionally noted a reduction in measurement after a long residence at lower levels. The lung changes are far more lasting.

The time necessary to produce these thoracic changes varies with the previous state of chest development, with the amount of exercise taken, with the yielding or non-yielding nature of the thoracic parietes, and with the age of the patient. In some, expansion takes place in six weeks, in others, three to six months are necessary, sometimes in very well-developed persons it is small. For a large number of patients a prolonged residence—say of two years—as urged by Dr. Wilson Fox, is undoubtedly desirable; but where this is impossible,

great and often permanent benefit may be derived from one winter's residence.

A word, too, on the durability of the results of mountain treatment. There is an impression among some medical men that whatever good may be reaped by residence at high altitudes is lost on descending to lower levels, and that a patient to be safe against relapse must reside altogether in the mountains. This does not accord with my experience, for in most of the cases under my care one or two winters have sufficed to produce arrest of the disease, which has not returned to activity, even after the lapse of several years.

I have added two other cases out of a numerous collection to further elucidate the remarkable influence of altitude on the thorax and its contents.

Mr. B., æt. 30, sent to me by Dr. Wallace, of Cardiff, May 11, 1881. He had had troublesome cough, loss of flesh, purulent expectoration, since October, 1880.

His temperature had been 101·5° F. on several occasions, and the skin moist and clammy. His cough was very severe.

Physical signs.—Right side: Flattening in front, crepitation audible at base. Left side: scattered crepitation throughout lung, most marked in the suprascapular, interscapular, and subclavicular regions. A few days later he had hæmoptysis to the extent of several ounces, followed by rise of temperature, which persisted for several days.

May 31.—The pyrexia subsided, and the cough decreased. He has lost 1½ lbs., the present weight being 8 st. 7½ lbs. Respirations 16, pulse 84. Physical signs: crepitation diminished in left lung, dulness above the scapula. The cyrtometric tracing (Fig. 2, line A, p. 4) was taken. The following chest measurements were made:

	Right.	Left.
At the level of the second rib . .	15 in.	15½ in.
„ „ mamma . .	15 „	15½ „
„ „ ensiform cartilage	15 „	15 „

August 31.—Has been nearly three months at Davos at my recommendation, and has gained in weight though he complains of the food. The cough diminished at first, but on July 1 he had slight hæmoptysis, repeated a few weeks later, since which date his cough has been again somewhat worse. Complexion bronzed. Respirations 28, pulse 96. Physical signs: dulness of the lower half front *left* side, crepitation audible from clavicle to third rib and above clavicle. Measurements:

	Right.	Left.
At level of the second rib . .	16 in.	15⅛ in.
,, mamma . .	15½ ,,	15½ ,,
,, ensiform cartilage	15½ ,,	15⅛ ,,

Line B is the cyrtometric tracing taken at this period; this shows an increase in the circumference, which the measurements indicate to have occurred chiefly on the right side, showing a further development of the less diseased lung.

Oct. 11.—The patient has been at Cardiff and has slightly increased in weight, being now 8 st. 10 lbs. Physical signs about the same. He was advised to return to Davos for the winter.

May 17, 1882.—Has just returned from Davos, looking ruddy and sunburnt; has walked fourteen miles a day, and breath is good on exertion. He had slight hæmoptysis in November, but no recurrence since. Cough gradually subsided, disappearing altogether two months ago. Weight 9 st. 2 lbs., being a gain of 6 lbs. Pulse 80, respirations 16. Line C of the cyrtometric tracing, and the following measurements were then made:

	Right.	Left.
At level of the second rib . .	17¾ in.	17⅛ in.
,, mamma . . .	17 ,,	16 ,,
,, ensiform cartilage	16 ,,	16 ,,

Physical signs.—Right side: Harsh sounds with hyperresonance everywhere. Left side: dulness (decreased after a few deep inspirations), tubular sound chiefly accompanying expiration, audible from clavicle to third rib, with crepitation on cough; marked dulness above scapula.

This gives a total increase of circumference at the level of the second rib of 4⅝ inches, at the level of the mamma of 2⅛ inches, and of that of the ensiform cartilage of 2 inches. The increase in the antero-posterior diameter is 1 inch, in the transverse, 2⅛ inches.

May, 1883.—I hear from Dr. Ruedi, of Davos, that this patient tried a second winter at Davos and returned to his business at Cardiff free from cough, and presenting but few physical signs. The increase in chest circumference was enormous, but we may account for this to some extent by the fact of his being chiefly occupied at home in sedentary pursuits, which considerably cramped the upper portions of his chest, and that these became completely developed under the high altitude treatment.

Mrs. I., æt. 23, an American lady, comes of a healthy

family, free from any history of consumption, and was well till two years ago, when, in consequence of mental anxiety, she began to lose flesh, cough and expectoration came on, with night sweats and feverishness, for which symptoms she wintered at Mentone with some benefit.

On May 29, 1878, I saw her in consultation with Dr. Andrew Clark, when consolidation of the right upper lobe with a cavity in the first interspace was diagnosed.

Sept. 17, 1878.—Has just returned from America, improved in appearance. Weight 117 lb., cough and expectoration moderate. Temperature and pulse normal. The measurements at the level of the second rib are: Right side 14 inches, left 14 inches.

Physical signs.—Right side: Dulness and hoarse rhonchus to fourth rib, cavernous sound in first interspace.

May 13, 1879.—Has resided in London, and has driven out most days. Cough and expectoration moderate; weight 115 lbs. Physical signs the same, except that there is some flattening in the left upper chest. Right side at level of second rib now measures 13½ inches, left 14 inches.

Feb. 25, 1881.—Has passed two summers in America, one winter in London, and one at Brighton since last report, taking cod-liver oil and tonics, but during the last four months has retrograded. Her weight has fallen to 110 lbs., the cough and expectoration have increased, the appetite has fallen off. Dr. Andrew Clark kindly saw her again with me, and we detected contraction of the old cavity at the right apex, but extension of the crepitation as low as the fourth rib. We also found fine crepitation over the whole of the posterior surface of the right lung.

May 17.—In spite of alterative treatment and strong counter-irritation, combined with oil and tonics, the patient has not improved, and there is evidence of disease at the left apex. She has lost 2 lbs. more in weight, and the cough is still troublesome. She was accordingly recommended to spend a year in Colorado. The chest measurement remained the same.

July 28, 1882.—Patient repaired to Colorado springs in June, 1881, and finding it too hot ascended to Waggon Hole Gap, 9000 feet above sea level and thirty miles from Colorado springs. Here she resided for three months with decided improvement, then returned to the springs and lived an out-door life, renouncing medicine, eating heartily, and drinking three quarts of milk a day. She increased in weight up to 144 lbs., this being a gain of 36 lbs. At one time she lost her

cough, but it has since returned, and she suffers from laryngeal irritation; the expectoration is slight. Her appearance is that of a stout woman with a bronzed complexion. Scarcely any flattening is to be detected in the upper right chest; cavernous sounds are audible from the clavicle to the third rib, crepitus is only audible in the right axilla; the whole chest appears enlarged, and is hyper-resonant on percussion, breathing is harsh everywhere. The subjoined tracing (Fig. 3, p. 4), taken at the level of the second rib, shows the extent of the enlargement, Line A indicating the dimensions before leaving England, and Line B the same on the patient's return from Colorado. The patient now states that she can walk great distances with but little fatigue.

Here the disease was evidently progressing in spite of various kinds of treatment, and it was not until the mountain influence was brought to bear that any improvement was visible; the change in the patient's condition was then so great that I hardly recognised her again, and the remarkable gain in weight must be taken into account in considering the chest extension, for undoubtedly some of this was due to increase of fat on the thoracic walls.

II.—*Case of Excision of the Tonsil for Epithelioma.* By C. Hilton Golding-Bird. *Read October* 13, 1882.

(*From the report of Mr. W. H. Moore.*)

WILLIAM D., æt. 45, came first to Mr. Golding-Bird's out-patients' on March 28, 1881, with a three months' history of sorethroat, and was at once admitted as in-patient.

His family history was good; his father died of paralysis, and he himself had right hemiplegia five years ago, with loss of speech, but after six months he recovered all but the use of the right upper extremity, in which the movements of precision are still wanting. He had had syphilis at twenty years of age.

Three months ago he first suffered from sorethroat, and in two weeks' time difficulty in deglutition appeared. The soreness increased, and two months ago he noticed an external swelling appear at the angle of the lower jaw on the left side, and at the same time first observed a swelling in the throat

on the site of the left tonsil. This internal swelling grew rapidly, impeding both deglutition and speaking.

There is now to be seen projecting between the pillars of the fauces of the left side a large saucer-shaped fungating mass, circular, depressed in the centre, and very hard. It is sharply defined and somewhat constricted where it emerges from under cover of the pillars of the fauces. It reaches nearly across the faucial opening. The depressed surface is covered with large granulations, which are very hard and extremely painful. There are two hard, small nodules on the back of the tongue, on the left side, the inner of the two extending nearly one third the way across the tongue. The tongue is not ulcerated. The pillars and pharyngeal wall seem quite healthy.

Externally at the angle of the jaw is a large, tender, movable lymphatic gland. The tissues around it show no ulceration.

The patient himself is thin, pale, and emaciated, and is rapidly losing flesh, being scarcely able to swallow even liquid food; otherwise he appears a man of strong constitution.

It being determined to remove the growth, chloroform was administered on April 6, 1881, and an oblique incision was made from the lobule of the left ear, downwards and forwards to the hyoid bone. The superficial structures and deep fascia were divided, a branch of the external jugular vein alone requiring ligature. An enlarged lymphatic gland was shelled out and the digastric muscle thus exposed. This muscle and the stylohyoid were then divided, and a second hard gland being found, it was also removed; it lay against the internal jugular vein.

On retracting the posterior border of the wound and pulling forwards the angle of the jaw, the styloglossus and stylopharyngeus were seen and divided, fibre by fibre, on a director. Neither the hypoglossal nerve nor the glossopharyngeal was observed.

The fascia investing the posterior part of the submaxillary gland was now slit up and the facial artery ligatured and divided. The internal jugular vein was now fully exposed for more than one inch. The internal carotid artery was not seen, but, covered with fascia, was felt pulsating. These two vessels being drawn outwards by a retractor, the wall of the pharynx was, by tearing through some yellow fat, fully exposed, bulging to and fro with the respiration. No vessel save the two already named required securing; and at the upper end of the wound was, what appeared to be the pes anserina, a branch of which was accidentally cut.

A second incison was now made through the cheek from the angle of the mouth to that of the jaw. There was no hæmorrhage, as the facial artery had already been secured.

With the left forefinger in the mouth and the right in the wound, the enlarged tonsil could easily be moved between them, and it was removed, together with the adjacent piece of the pharyngeal wall, by the electric cautery, employing this partly as a knife and partly as an écraseur. In the latter case the wire was first threaded through a portion of the pharynx surrounding the tonsil, in such a way that the loop of wire spanned about an inch of tissue in breadth. On tightening up the ends of the wire, which projecting through the wound were run into the écraseur, and making electric contact, this portion of the pharynx was divided. By repeating this manœuvre the pharyngeal wall was cut round the tonsil, which was then removed. Through the opening that remained in the pharynx the écraseur was again applied round the adjacent portion of the tongue and the nodules before mentioned were removed.

The wound in the cheek was now united with silk, and a plug of carbolised gauze was inserted into the wound of the neck, through which the air freely passed at each expiration.

Throughout the operation there was no bleeding of any consequence.

The after-treatment and progress of the case may be thus summarised:

In the first twenty-four hours he swallowed seven ounces of milk and had three food enemata, but after that, and until the wound in the pharynx had closed, he was fed through a Jacques' soft œsophagus tube. On the third day he sat up in bed for the dressing, which merely consisted in keeping the sloughing surface as clean as possible. On the twelfth day (April 18) the patient was out of bed, and on the sixteenth the pharyngeal opening ceased to allow air to pass through it. Owing to stiffness of the jaw he was obliged to use a wedge daily to recover the full use of his mouth.

On April 29 a spot of hardness was detected on the cicatrix of the tongue, and the cheek being again laid open along the old cicatrix it was freely burnt away.

On May 9 the œsophagus tube was discarded and he ate his meals, but slowly, however, as the jaws were still very stiff.

On May 19 an enlarged gland (small) had to be removed through the old external wound; it was found adherent to the internal jugular vein at the level of the hyoid bone and already

softening down. It was impossible to remove it *in toto* without resecting part of the vein, but this it was determined not to do, the patient having stipulated before hand that no risk to life should be run, he being in a very comfortable condition. At this time there were still some large and painful granulations in the tongue and also on the adjacent gum.

On June 9 he was discharged. His condition was as follows:

Sinus on left side of the neck still leading to site of lymphatic gland last removed, and near it another enlarged gland has appeared.

The cheek wound has cicatrised, but there is slight want of power about the lower facial muscles on the left side. There is fair movement of the jaw. The palate is drawn over to the right side, and only cicatricial tissue is where the left tonsil and pillars were originally. Painful granulations still remain on the tongue and on the adjacent gum.

The patient was last seen on July 4, when the sinus in the neck had become the site of fungating growth, and there was a return of growth in the throat. There was much difficulty in swallowing, and he was advised to return to the employment of the soft œsophagus tube.

From this time the patient was lost sight of.

Although the tongue had two nodules of growth on it, yet the patient's statements point to the tonsil having been primarily affected; and the communication between the tonsillar growth and the neighbouring nodule in the tongue was slight. Neither pillar of the fauces was affected and the growth had shown no sign of infiltrating neighbouring parts immediately around it.

A second very similar case of cancer in the tonsil in a man æt. 61, which I saw in June, 1881, I was obliged rather to regard as secondary disease of the left tonsil, for not only was the back part of the tongue extensively involved and already ulcerated, but the growth on the tonsil was not circumscribed, but had already involved (after six months) the posterior pillar and commenced to spread down the lateral pharyngeal wall. In this case there was also a large indurated gland at the angle of the jaw.

The steps of the operation were nearly those adopted by Cheever in 1871,* but the second incision in his case was made along the horizontal ramus of the gum, but I preferred the one across the cheek. The primary incision throughout pre-

* 'Boston Med. and Surg. Journal,' 1871, vol. i, p. 390.

sented no difficulties, the substitution of blunt for sharp instruments being the only precaution when the deeper structures were reached.

The employment of the galvanic wire to cut the pharyngeal wall was, I think, an excess of caution, and should it ever fall to my lot to perform a similar operation, I should prefer the clean cut of the scissors. With the cautery it is very difficult at times to know whether the required depth has been reached in the extirpation of a growth. No recurrence in this case took place in the site of the tonsil but in the tongue; I fear, therefore, that the removal at first in this organ was not so free as it appeared at the moment of operation to be.

The starving and suffering state of the patient was the cause for undertaking the operation; and the experience of this one case makes me assured that if other circumstances demanded surgical interference, no idea of manipulative difficulties nor of special risk to the patient need deter the surgeon from undertaking extirpation of the tonsil by external incision. Many far more difficult and dangerous operations are daily performed.

Hueter (*Grundriss der Chirurgie*, vol. ii, p. 215) objects to Cheever's incision as rendering the internal carotid artery more liable to injury, and prefers Langenbeck's, who, after separating the masseter muscle from the jaw, sawed through the latter, and dislocating the ascending ramus, obtained room to complete the extirpation of the growth, replacing and suturing the bone afterwards.

The question of expediency, however, demands the fullest attention; and I am inclined to think that the plan adopted in my second case referred to, namely, feeding by a soft œsophagus tube, with the alternative eventually of performing gastrostomy, more likely to meet all the real requirements of these cases, unless seen so early that there can be no suspicion of the growth having extended beyond the tonsil, nor of having invaded the lymphatic system except to a very limited and remediable extent.

Microscopic examination of both the tonsil and enlarged lymphatic glands showed, in each epitheliomatous structure, the component cells having very large nuclei and belonging to the rete Malpighii type and not to the squamous variety.

This year (1882) two further cases of the same nature have come before me, of which the following are brief abstracts:

Geo. H., æt. 57. Out-patient at Guy's Hospital May 1, 1882.

Epithelioma of left tonsil, tongue, and soft palate. One year's history, but only three months' history of tongue being in pain. Has large gland at angle of jaw.

John C—, æt. 50. In-patient Lazarus Ward, July, 1882. Epithelioma of left tonsil involving adjacent pharynx, but tongue quite free. Three months' history only. Enlarged gland at angle of jaw and above collar-bone.

The history in one case and observation in the other caused me to regard both as primary disease of the tonsil.

I declined operative interference in both these cases, in one from the condition of the lymphatic glands; in the other from the extent of the disease in the mouth.

It will be observed in the four cases now mentioned that in two there was a history of three months, in one of six, and in one of a year; yet in all was the lymphatic system already involved.

But, as I have already remarked, and as Cheever's case showed, the presence of the enlarged gland at the angle of the jaw need not preclude the idea of operation if the state of the throat is suitable.

The left side was in all four cases the affected one.

III.—*Excision of the Right Tonsil, base of the Tongue, and part of the Soft Palate for Epithelioma: Aneurism of both Popliteal Arteries.* By R. Clement Lucas, B.S. *Read October* 13, 1882.

THE following case affords a good illustration of the relief that may be afforded by freely removing cancerous growths even in persons of degenerate constitutions.

D. K., æt. 64, was for some years a sailor, but since leaving the sea he has been employed as a coal-porter on the river-side, and has drunk freely. He has had gout in his great toes on several occasions and once also in his fingers. Fifteen years ago he had soft chancre and suppurating bubo, but there is no history of constitutional syphilis.

He was admitted into Guy's Hospital under Mr. Lucas's care for the first time on February 13, 1880, suffering from a large aneurism of the right popliteal artery, and a small aneurism of the left. He had suffered from pain in the left

knee about eighteen months, and for twelve months a "breaking" sensation in the right popliteal space. For some weeks the right leg below the knee had been swollen and painful.

Digital compression of the right femoral artery was commenced on February 17, at 7 P.M., and was continued for sixteen hours, when the aneurism appeared to have consolidated and pulsation could no longer be detected.

On the following day, although the tumour was much consolidated, some pulsation was re-established in it. Digital pressure was again commenced on the 20th and continued for eleven and a half hours when pulsation ceased and did not recur, the tumour afterwards gradually shrinking. An attempt was made, about a fortnight later, to cure the small aneurism in the left popliteal space by digital compression, but this failed; and as the tumour caused him little inconvenience no further treatment was suggested, and he left the hospital. Besides these aneurisms he was afflicted with deafness, and the loss of one eye by an injury.

About a year and a half later he again sought advice on account of a growth at the back of his tongue and difficulty in swallowing. He was admitted under my care on August 2, 1881. The right popliteal space was then free from pulsation, but contained the cured aneurism, still of considerable size. In the left popliteal space was an aneurism about the size of a pigeon's egg, freely pulsating, and associated with effusion into the knee-joint.

The condition of his mouth was as follows:—On the right side of the tongue opposite the last molar tooth was a small ulcer, grey in colour, and irregular on the surface. The ulceration extended along the anterior pillar of the fauces and involved the right tonsil as well as the tissue between the tongue and the jaw. The surface of the tongue near the base was raised and indurated for about half an inch from the margin of the ulcer. The movements of his tongue were interfered with, so that mastication and deglutition were painful, and there was an increase of salivary secretion. No enlarged glands were felt beneath or behind the jaw.

The operation was performed on August 9. The patient was placed under the influence of chloroform with great difficulty, his struggles being very violent. When fully under the anæsthetic the cheek was first divided from the angle of the mouth in a direction outwards and somewhat downwards to the edge of the masseter, and the facial artery twisted. A gag

was then inserted on the left side of the mouth, whilst the tongue was drawn forward by forceps, and the flaps of the cheek were held back with retractors. The back of the tongue and tonsil are in this way easily reached. The soft palate was next divided near the middle by means of Paquelin's cautery and dissected down with the anterior pillar and the tonsil. Attention was next paid to the tongue, which was divided in the median line with a scalpel and carefully dissected outwards till the lingual artery was reached. This was seized with two pairs of forceps, divided between, and the ends twisted without loss of blood. The tissue between the tongue and jaw was next dissected up, the cautery being used to stop any bleeding point; and finally, the growth, with the base of the tongue, right tonsil, and half of the soft palate, was removed in one mass. The cheek was brought together with three hare-lip pins, and it united primarily.

The patient recovered rapidly after the operation, and in sixteen days (August 25) was again subjected to digital compression for the cure of the left popliteal aneurism. It was kept up for forty-eight hours with the aid of opium, but even after this, though much consolidated, it still pulsated.

He left the hospital with the tongue quite healed on September 16.

Whilst in the hospital the registrar by sphygmographic tracings was led to believe that the man had also an aneurism at the commencement of the left subclavian artery.

He was readmitted into the hospital on February 13, 1882.

There was no return of the disease in the tongue or palate, which were united by a firm and sound cicatrix. There was a large mass on the right side of his neck below and behind the jaw, which commenced six weeks before and grew rapidly, extending outwards beneath the sterno-mastoid.

An operation for the removal of this growth was undertaken on the following day. There was again a difficulty in the administration of chloroform, the straining being such as to endanger the rupture of a diseased vessel. A vertical incision of about four inches was made, commencing behind the angle of the jaw, and the growth dissected round. It was found necessary afterwards to enlarge the wound transversely. In the course of the operation the lower part of the parotid gland, a portion of the sterno-mastoid, the posterior belly of the digastric and stylo-hyoid, and a portion of the submaxillary gland, were removed, all of which were infiltrated. The facial artery was twisted, and the facial and lingual veins ligatured

with catgut. At the bottom of the wound the internal jugular vein and the two carotid arteries with the hypoglossal nerve were exposed. Two enlarged glands were also removed from underneath the sterno-mastoid. The operation was performed antiseptically and the patient recovered without a bad symptom and left the hospital on March 24.

He was again seen in July last with a recurrence of the growth on both sides of the neck, but there was still no sign of disease in the original site within the mouth. It was not then thought advisable to interfere further.

By the operation I have described it will be seen that a cancerous tonsil, with the adjacent structures, may be completely removed from within the mouth; and, when this is practicable, it has the advantage over the external operation, of avoiding the fistulous track through which saliva is apt for a long time to ooze. For the rest, the treatment of cancer here does not differ from the treatment of it elsewhere, and on this, happily, most surgeons are now agreed. The treatment —and the only treatment—is to operate early, and to operate late; to operate, indeed, so long as it is possible to remove a loathsome outgrowth without great immediate danger; to operate to keep it local; to operate on the earliest return; and though we may be often disappointed in our attempts to eradicate the disease, we may still prolong life; or, as in the case before us, succeed in driving the disease from its original site to one where it is less offensive and more easy for the patient to bear.

IV.—*A Case of Gunshot Injury of the Lower Jaw.* By W. J. Walsham. *Read October* 27, 1882.

H. W., a woman, twenty years old was admitted under my care into the Metropolitan Free Hospital on the night of July 16, 1881, with a gunshot wound of the lower jaw. The injury had been inflicted with intent to murder by a man, who immediately after firing at the woman, shot himself through the skull, and died within a few hours. The revolver was stated by an eye witness to have been held horizontally and in close proximity to the woman's face. As the tragedy occurred close to the hospital only a few minutes had elapsed before

the woman was seen by the house-surgeon. There was then only a slight oozing from the wound, but considerable hæmorrhage had evidently taken place from the quantity of blood found upon the neck and shoulders. The patient had not lost consciousness, but was much excited, and complained of extreme pain in the head and teeth. The wound was situated about an inch above the angle of the jaw, and one third of an inch nearer to the anterior than to the posterior border of the ascending ramus. It appeared as a small, round aperture, about a third of an inch in diameter; the edges were smooth and inverted, and the skin was blackened with the powder. A probe could be passed for about an inch and three quarters in a direction backwards, inwards, and slightly upwards. A small movable body, taken for a spiculum of loose bone, was felt, but the situation of the bullet could not be determined (and much probing, considering the important structures in the neighbourhood of the deep part of the wound, was not deemed judicious). On my arrival at the hospital the patient was placed under ether, and the external opening enlarged. It was then found that a bullet had perforated the inferior maxillary bone, leaving a smooth, regular, and almost circular orifice, capable of admitting the forefinger as far as the first inter-phalangeal joint. Beyond the perforation of the jaw the finger came upon lacerated soft tissues, but the bullet could not be detected. On examining by the mouth a slight fulness above the right tonsil was found, but no wound or definite indication of the situation of the bullet. As the symptoms were not urgent, there being no hæmorrhage, it was decided to take no further steps at present for the detection or the removal of the bullet, but to keep the patient perfectly quiet, and relieve the pain by opiates, &c. Water dressings were applied to the wound. On the following day the patient complained of great difficulty in swallowing, and of much pain about the right side of the neck and face. There was a constant dribbling of saliva from the mouth, which could not be opened for more than three quarters of an inch; and sensation was completely lost in that part of the chin which is supplied by the mental branch of the inferior dental nerve. Temp. 99·5°; pulse 100. On consultation with my colleagues it was decided not to make any attempt to remove the ball. The next day (July 18) there was considerable swelling about the angle of the jaw. The wound was discharging freely. It was ordered to be syringed out frequently with a weak solution of Condy's fluid

and a poultice applied. Pulse 100. On the 20th the note stated that the patient could now speak and swallow much more easily. The pain and swelling were not so great. There was still a dribbling of saliva, and the mouth could only be partially opened. Some of the Condy's fluid injected into the wound passed into the mouth, but the aperture through which it escaped could not be seen. There was increasing fulness about the right tonsil, but still no precise indication of the whereabouts of the bullet. On the 21st the condition was much the same, but pus escaped into the mouth through a still undiscovered aperture, and a soft, semi-fluctuating swelling appeared at the back and a little to the right of the pharynx. On the 23rd her condition was improving. Swallowing much easier. The discharge much the same from the mouth and orifice in the cheek. No fever, and pain less. On the 25th a small spiculum of bone and part of the crown of the wisdom tooth came away through the external opening when the dressings were removed, and on the 26th the bullet was discharged from the wound, very much flattened, and with another piece of the wisdom tooth embedded in its apex. On the 29th the patient was still mending, and was up and about the ward. There was now no difficulty in swallowing, nor any escape of pus or fluid into the mouth. The fulness about the tonsil and at the back of the pharynx had nearly disappeared; but the loss of sensation in the chin still continued.

From this time the patient progressed rapidly, and was discharged on the 10th August with the wound nearly closed. When last heard of she expressed herself as being in good health.

Remarks.—The bullet in perforating the jaw must have divided the inferior dental nerve, as evidenced by the pain in the teeth and by the loss of sensation in that part of the chin supplied by its mental branch; and as a portion of the crown of the wisdom tooth was embedded in its apex, it must also have passed through the alveolus containing this tooth, which the patient, who was only twenty years old, had not yet cut. The aperture through which the pus subsequently escaped into the mouth would seem to have been due to ulceration of the part of the gum covering the alveolus of this tooth. Having passed through the jaw the bullet most probably made its way behind the pharyngeal aponeurosis, external and a little above the tonsil to the back of the pharynx, where it was arrested by the cervical vertebræ. Such a course

would explain the appearances noticed in the mouth. The fulness about the tonsil, which was first thought to indicate the position of the bullet, was, on this supposition, more probably caused by the inflammation of the bullet track; while the subsequently discovered fluctuating swelling at the back of the pharynx probably indicated the spot where it ultimately lodged.

But perhaps the chief interest of the case lies in the question of treatment. Three distinct courses presented themselves: 1st, to attempt the extraction of the ball through the external wound; 2ndly, to cut down upon it and remove it by the mouth; or, 3rdly, to leave it alone in the hope that it would either escape spontaneously or become encysted. The objections to the first plan were: 1st, that to obtain room for necessary manipulation a large portion of the jaw must have been cut away; 2ndly, that the exact situation of the bullet was not known, as it could neither be felt by the finger nor by such probing as in this region seemed safe. 3rdly, that in searching for the bullet considerable risk must have been run of injuring some of the large vessels and nerves amongst which it had evidently passed.

Against extraction through the mouth the fulness about the tonsil did not seem to point sufficiently clearly to that being the situation of the bullet to justify me in making an incision in such a dangerous region; nor do I think that had I done so it would have been found, as I now believe, as above stated, that the fulness merely indicated the inflamed track and not the situation of the bullet, which had itself then probably passed to the back of the pharynx. In leaving it, in the hope that it would escape spontaneously or become encysted, there seemed some danger of secondary hæmorrhage occurring. But on the whole it appeared the best course to pursue, and in this I received the support of my colleagues who saw the patient with me. Although the case terminated satisfactorily, it is perhaps open to question whether I ought not to have made further attempts to find and remove the ball; and it is therefore in the hope of eliciting criticisms on this point that I have ventured to bring the case before the attention of the Society.

V.—*Scarlet Fever: Secondary Sorethroat on 54th day: Severe Bleeding on 58th: Ligature of Left Common Carotid on 59th. Hoarseness followed by sudden Aphonia on same day as Hæmorrhage: Bursting of Retro-pharyngeal Abscess after Application of Ligature: Recovery with Fixation of Left Vocal Cord.*

By A. J. Pepper, M.S., M.B. *Read October* 27, 1882. *Communicated with remarks by* F. A. Mahomed, M.D.

(*Abstract of the report of the case by* Dr. Hopwood, *Assistant Resident Medical Officer, London Fever Hospital.*)

C. W., æt. 30, a butler, was admitted to the London Fever Hospital under the care of Dr. Mahomed, on January 2, 1882, having developed scarlet fever (first attack of any specific fever) three days previously. With the exception of an attack of rheumatism the disease ran a simple course with an ordinary convalescence until February 22, when patient complained of a sudden attack of shivering, and pain low down in his throat, accompanied by a sensation as of a ball "rising and falling." His temperature rose to 101·6° F. On the morning of the 23rd an examination of the throat revealed a large and translucent uvula with redness and swelling of the soft palate and tonsils, which were covered with thick mucus.

The throat was scarified and guaiacum mixture and chlorate of potash lozenges ordered.

On the 24th there was great difficulty in swallowing; throbbing pain was complained of on left side of throat. Two hæmorrhagic patches had appeared on each side of the middle line at junction of hard and soft palate; on the outer side of the left patch was a yellowish bleb of gelatinous œdema, about ⅛ inch by ¼ inch. It did not empty on puncture.

On Feb. 26th, at 3 p.m., he noticed his throat rapidly swelling, particularly on left side, and he complained of feeling suffocated; soon afterwards he brought up a considerable quantity of blood, and with this the swelling of the neck subsided and the breathing became tranquil.

This process of swelling and subsequent loss of blood was repeated several times until 4 A.M. on the 27th, then the neck became gradually distended again; but there was no more bleeding until about 9 A.M.

The patient had now lost 40 ounces of blood, was very considerably blanched; there was no evidence of arrest of hæmor-

rhage; the pulse was 120 per minute and splashing; the breathing very considerably impeded, and his condition was altogether critical. The Resident Medical Officer (Dr. Tonge Smith) summoned Dr. Mahomed and myself by special messenger, and a consultation between us took place at 10.30 A.M. At this time there was considerable bulging of the left side of the pharynx, marked dyspnœa and complete aphonia.

The temperature between Feb. 22 and 27 varied from 100·2 —102.

(It is worthy of note that the loss of voice came on suddenly at the time of the first appearance of the hæmorrhage, and was immediately preceded by a sensation as though something had been torn.)

It was decided to tie the left common carotid artery, as the patient had already lost over 40 ounces of blood, and it was thought dangerous to cut into the post-pharyngeal swelling for fear of further bleeding and possible asphyxia. The operation was performed antiseptically under chloroform, and the artery tied with carbolised catgut at the upper border of the omo-hyoid muscle.

The procedure was somewhat arduous on account of the greatly distended state of the veins; three or four small ones were doubly ligatured and divided. A drainage tube was inserted at the upper and the lower angles of the wound and the edges brought together with silk sutures. Gauze dressing was applied. The pulsation ceased in the temporal artery.

For some time after the operation the patient's condition seemed critical, respiration threatened to fail although the reflexes were not abolished. He completely rallied in the next three or four hours.

Soon after the operation he brought up half an ounce of pus and later on 5½ ounces; this was attended with a corresponding diminution of the swelling of the neck and pharynx.

The temperature the same evening became normal.

The wound healed with scarcely any suppuration or inflammatory œdema.

April 7.—Wound practically healed; numbness of skin corresponding to distribution of superficial cervical nerve. Aphonia only partially recovered from. Fixation of left vocal cord. General health good.

The common carotid was selected for ligation in preference to the external, since it allowed the operation to be performed quite clear of the infiltrated tissues, and thus conferred a greater immunity from secondary hæmorrhages. Moreover,

had the original bleeding have come from the ascending pharyngeal, ligature of the external carotid might have failed to arrest it as the place of origin of the former vessels is very variable.

The sudden change in the voice from huskiness to complete aphonia came on prior to the operation, and must have been due either to œdema of the mucous membrane of the larynx, or to stretching of the vagus nerve from the extensive extravasation into the tissues of the neck. Probably the latter explanation is the correct one, for the aphonia lasted for a long time and was very gradually recovered from. Dr. W. M. Crowfoot, of Beccles, writing under date, October 24, 1882, says: "I should not myself have observed anything remarkable or unusual about his voice, and he tells me that it is now quite as powerful as it was before the operation, and he does not think that the tone has in any way altered. He finds, however, that he cannot now sing as he used formerly to do, because he has lost his high notes. His health seems to be excellent."

Remarks by F. A. Mahomed, M.B.

I examined the larynx of this patient about a fortnight after the operation, when the wound had nearly healed. At first the throat was very irritable and examination difficult. Considerable swelling and puckering of the aryteno-epiglottidean folds and about the base of the epiglottis and entrance of the larynx was observable; although the swollen nodules of mucous membrane over the cartilages of Santorini were both, as I thought, movable, neither of the vocal cords were visible. As the illumination was imperfect and the view hasty I could give no positive opinion, but I believe that the swelling of their posterior extremities and that of the ventricular bands prevented their approaching the middle line sufficiently to make them visible.

About the end of March, his throat being more tolerant, a much better view was obtained; the mucous membrane about the entrance to the larynx was still swollen and puckered, but the cords now came well into view. They were both normal in appearance, the right moved freely and well but the left was almost completely fixed; its position was that of partial abduction. The cords were therefore never opposed when phonation was attempted. Though the swelling has decreased their condition remains much the same at present (May, 1882). Whether this fixation is due to paralysis or to inflammatory

swelling I am by no means certain; I am inclined to think the latter.

The appearances of the throat at the onset of the secondary attack were very remarkable. The congestion of the pharynx, fauces, and soft palate was most intense, and the sudden arrest of the deep red colour at the line of the hard palate was very striking. The severity of the inflammation was indicated by two patches of hæmorrhagic congestion and by the peculiar œdematous bleb on the soft palate. The appearances were so unusual that I asked an artistic patient, who is a medical man, to sketch it. But he only saw it once, for the next day the hæmorrhage commenced. The sketch though made from memory, indicates the position of the points of intense congestion.

Secondary sorethroat after scarlatina is in our experience at the Fever Hospital by no means uncommon. During the ten years, from 1872 to 1881 inclusive, 3957 cases of scarlet fever have been admitted, and very severe secondary sorethroats have occurred in 57 cases, that is, in 1·517 per cent.

It usually takes the form of tonsillitis, with much congestion and swelling of both pharynx and palate; it resembles, therefore, the primary condition of the throat, characteristic of the disease. These secondary inflammations of the throat vary in severity, but in none of our cases have they proved fatal. They are accompanied by an amount of pyrexia corresponding in some measure to their severity. Their occurrence in either hospital or private practice, I believe, depends very largely on the amount of concentration of the poison. They are more frequent when the hospital wards are over-crowded, badly-ventilated, or when they have not been whitewashed and painted for some years; in private practice they may occur when many children are kept in the same room, or the windows are kept too carefully closed. They are, I believe, modified second attacks of the disease. Complete second attacks have been observed in our own wards and elsewhere, following within a few weeks the first attack, and complete as it in all respects with rash, sorethroat, and fever. During the same ten years we have had twenty-nine cases of second attacks, or relapses as they have been called, out of the total 3957 cases under treatment, or 0·772 per cent. They have all recovered but one, who died from other complications.

These second attacks seem, like the secondary sorethroats, to depend on the amount of concentration of the poison existing at the time.

Hæmorrhage from the throat is a rare but most dangerous complication, whether it occur as part of the primary or secondary throat affection. It is usually produced in one of two ways; either as a result of sloughing of the soft palate or other parts, or, as in this case, by the opening of an artery or vein into an abscess cavity. Every severe case that I have seen, with the exception of the present one, has been fatal.

Six cases have occurred at the London Fever Hospital during the last ten years out of 3957 cases of scarlet fever treated there. In one other case my colleague Mr. Pepper tied the common carotid in a young child; but in this case hæmorrhage had occurred into a glandular abscess cavity, the result of a severe primary attack of scarlatina; the bleeding had been insidious and prolonged, the condition of asthenia extreme and well-nigh hopeless. The child died without recurrence of the hæmorrhage.

In the present case it appeared quite impossible to reach the bleeding point for the application of hæmostatics, or for any local operative procedure; my colleague Mr. Pepper, therefore, unhesitatingly recommended the application of a ligature to the common carotid as the most efficacious surgical method, and the result fully justified his selection.

In conclusion, it appears to me specially worthy of remark that the ligature of the carotid appeared to exercise a most beneficial influence over the inflammatory action in the throat quite apart from the arrest of hæmorrhage; the local inflammation subsided in a far more rapid manner than I expected. This may have been due to the relief afforded by the previous hæmorrhage, or it may have been a coincident subsidence of inflammatory action after the discharge of pus; but it is certain that the throat, which I feared might become the seat of severe sloughing, recovered most rapidly and completely.

VI.—*A Case of Hæmaturia from Bilharzia hæmatobia.*

By H. Radcliffe Crocker, M.D. *Read October* 27, 1882.

I AM indebted to my friend Dr. George Bird for the opportunity of bringing this case before the Society. At the beginning of the year he left at my house a small dark mass

of the size of a millet seed on a piece of paper, asking me to examine it microscopically. His note stated that it had clung to the eye of a soft catheter, which he had introduced on account of the great difficulty and pain on micturition in a case of hæmaturia, and having felt that the catheter passed through some obstacle of about the consistency of soft putty at the neck of the bladder, he thought that perhaps there was some growth.

On teazing the mass out in saline solution, and examining it with the microscope, I found that it was a blood-clot, in which were entangled several oval bodies with a sharp point at one end, which I immediately recognised as the ova of *Bilharzia hæmatobia*. On acquainting Dr. Bird of this he very kindly allowed me to get the history direct from the patient who was a boy at school.

His age was thirteen years, and he was born in the Orange Free State, where he had lived eleven years; he then went to Cape Town for three months, and thence removed to Natal, living there up to the time of his coming to England in October, 1881. Six months before he started for this country he had passed blood both in the fæces and urine, of a dark red colour; it recurred daily for several months, and the medical men out there treated him for dysentery. The hæmorrhage ceased for a few weeks before he left Natal, but recurred slightly during the voyage. The quantity has never been large at any time. In the middle of December the hæmorrhage began again, and he came under treatment. There was not very much blood, and it was intimately mixed with the urine, never in clots, and none passed by the bowel; it continued slightly for a month, not every day but frequently, and then difficulty of micturition became so great that Dr. Bird had to pass a French catheter to relieve the distended bladder. It was then that he felt the obstruction referred to, and had the clot examined. Complete relief followed, and in a fortnight hæmorrhage ceased.

When I saw him he had been free from hæmorrhage for five days, felt no discomfort, and with the exception of slight anæmia his general health was undisturbed. Twice during the period in which he had been under Dr. Bird's care the urine has been decomposed and micturition frequent and painful, the only other symptom has been pelvic aching after sharp or prolonged exercise.

I examined about half an ounce of the urine drawn off at the time the clot was obtained; blood was intimately mixed

with it, imparting a red colour, and in the deposit ova were found embedded in blood-corpuscles, accounting for the frequency of calculi in this disease, to which Dr. Zancarol drew attention at the Pathological Society last session. The urine was acid and not in any way remarkable except as above mentioned.

On October 4 Dr. Bird procured for me three specimens of urine passed at night, in the morning, and midday. The morning urine was pale and clear above with more mucus than usual, but not very excessive; it was acid and sp. gr. 1025. That of midday was distinctly reddish and turbid, and not more than 2 oz. The night urine was also only about 2 oz. in quantity, and more like the morning urine, but slightly turbid. The specific gravity of the urine of the last two periods mixed together was 1015. I saw none of the colourless, shreddy filaments which Dr. Guillemard speaks of as numerous and pathognomonic. Under the microscope each specimen of urine contained ova and blood-discs, epithelium, oxalate of lime crystals, but only in small quantity; the ova were most numerous in the midday and night urine. Pouring off the supernatant urine and adding water at the temperature of 80° F., some embryos were hatched in a few minutes with their cilia in active movement; one or two swam about vigorously, but most of them were rather sluggish; some were a perfect oval, others had the head extruded some distance, displaying a narrow neck. Dr. Guillemard speaks of the head of the embryo when within the ovum being more commonly directed towards the terminal spine in the proportion of three to one, but, as far as my observation extended, though much less than his, the head was as often one way as the other in the dehiscence of the ovum, also the splitting of the envelope was not so invariably longitudinal as he makes out.

I may add that blood was taken on two occasions at 10 p.m. and examined for *Filaria sanguinis hominis*, with a negative result. This was done as the association of the two parasites has been occasionally noticed, though of course this was only accidental.

Treatment.—There has been very little done in the way of treatment. Dr. Bird gave benzoic acid three times a day for some time without effect, but the parents were averse to any very active treatment; and as the majority of the cases get well spontaneously after puberty, he did not care to subject the patient to the evils of cystitis, which has nearly always followed attempts at the local extirpation of the parasite by

means of medicated injections. Should puberty fail to get rid of this obstinate parasite, the injection of a saturated alcoholic solution of santonin into the bladder, as recommended by Dr. James Allen, of Natal, so strongly, may be tried.

This disease, though so common in Egypt and South Africa, is very rarely seen in England, though probably some cases pass unrecognised. Among the most completely recorded cases are those of Dr. John Harley, Dr. Cobbold, Dr. Roberts, of Manchester, and quite recently Dr. Guillemard, whose small monograph gives a good *résumé* of the subject. The recent campaign in Egypt gives to these cases a more immediate practical interest, as it is very probable that some of those who have taken part in the expedition will bring back with them this persistent and troublesome lodger. This case also demonstrates the absolute necessity of using the microscope in all cases of hæmaturia, for had it not been for Dr. Bird's care in this respect, the true nature of the affection would not have been suspected.

VII.—*Extirpation of the Uterus for Fibroid Disease: death on the fourth day.* By C. Hilton Golding-Bird. *Read November* 10, 1882.

CATH. A., æt. 37, unmarried, a schoolmistress in the West of England, was admitted into Guy's Hospital, under Mr. Golding-Bird's care, on August 26, 1882.

She gave a history of ten years left ovarian pain, increased by a strain three years ago; also of having first noticed a swelling at the same point one year ago for the first time. From that time the tumour has uniformly increased in size, though more rapidly the last six weeks.

Her general appearance is healthy, and her subjective symptoms are constant bearing-down pain, pain from the weight of the tumour, and attacks of nausea and even vomiting, on an average for two days a week. Of these last she specially complains, and finds, in the aggregate, her symptoms so severe that she desires to run any risk rather than continue as at present. Regarding the nausea it should be

noted that ten years ago she had typhoid fever, and that her life was then threatened by the incessant vomiting from which she suffered.

Menstruation is in all respects normal. Bowels regular. No interference with micturition.

Physical examination.—A tumour, hard, non-elastic, non-fluctuating, and apparently with a boss on either side at the upper border, occupies the middle line of the belly, reaching two thirds up to the umbilicus. It is movable *en masse* from side to side, and is sharply defined at all its borders. Vaginal examination shows the os uteri drawn up to the left, almost beyond reach; the uterine sound enters nearly to normal length, and in backward direction. A globular hard swelling appears attached to the front of the cervix, and is movable with it; it pushes down the anterior vaginal wall, and moves together with the uterus when the tumour in the abdomen is pushed from side to side.

Pressure in the left ovarian region, whether per vaginum or from the abdominal surface, gives pain.

The diagnosis of uterine fibroid was made, and the two bosses above referred to were taken to be of the same nature.

Mr. Bryant saw the case later with me, and concurred in the diagnosis, as well as with the opinion I had formed regarding the advisability of operation—extirpation of the uterus being probably involved.

The nature of the case, the risks, and the future, if recovery took place, being placed fully before the patient, she was anxious that the attempt should be made, and after a delay of twelve days, to allow the next period to pass over, the operation was undertaken.

Prior to the operation the following measurements were taken:

Umbilicus to pubes	7 in.
,, ensiform cartilage . .	5 in.
,, right anterior iliac spine .	6 in.
,, left ,, ,, .	5¾ in.
Circumference at umbilicus . . .	29 in.
,, below ,, at greatest girth	34 in.

Operation.—Everything was prepared as for an ordinary ovariotomy, but the catheter that was passed after the anæsthetic had been given was kept in (a No. 8 Eng. catheter) as a guide to the position of the bladder.

An incision 4 inches in length was first made between the

pubes and umbilicus, and the tumour was exposed, of bluish colour with large veins coursing over it. The apex of the bladder was close to the lower limit of the incision, so that this could not be carried to within 1½ inch of the pubic bone. The hand being inserted it was found that the tumour rose from the pelvis, between the bladder and uterus, and filled nearly all the pelvic brim. The uterus was above and behind it, and the two bosses that had been felt during life proved now to be enlarged and cystic ovaries.

Owing to the reflexions of the peritoneum from the tumour on to the viscera and sides of the pelvis only its summit could be explored.

Firmly fixed at its deepest part it seemed slightly movable laterally, and therefore it was determined to enucleate it.

The abdominal incision was prolonged upwards, being now in all 11 inches long, and a sheet of "green protective," dipped in warm carbolic lotion was thrown over the upper part of it, and tucked in under its edges, and pushed downwards in front of the rectum into the pelvis; the intestines were thus kept well out of the way during all the operation, and were likewise protected from the direct action of the spray. My colleague, Mr. Jacobson, kindly assisted me in this, and to his skilful management of the abdomen is due the fact that the intestines were scarcely seen at all.

I incised the peritoneum all round the summit of the tumour, and then dissected the latter from the bladder as far as I could reach; in this situation some large veins had to be secured, and the dissection was mostly carried out with a blunt instrument. An attempt was now made to shell the tumour out, but not until both broad ligaments had been tied and divided was this possible. The tumour was now easily separated from its lateral attachments, and then its junction with the anterior wall of the uterus was divided. The hand could now be passed between the uterus and the growth, and from behind forwards it was finally lifted from the pelvis with the help of tearing with a periostome. The last attachment divided was that of the bladder, and this was carefully done from below upwards.

Working deeply in the pelvis, free use was made of Mr. Spencer Wells's large pressure forceps, and by dividing attachments of any magnitude between carbolised silk ligatures, no difficulty was met with in regard to hæmorrhage. In the upper vaginal wall, to which the fundus of the growth was attached, some veins had to be secured.

I now removed both the uterus and ovaries, and this was easily accomplished, the broad ligaments already having been secured. A specially prepared needle, with blunted point and carrying six feet of carbolised silk, was employed after Erichsen's method for tying nævi, and the pedicle was thus secured in four parts. On its division there was no bleeding; it was formed of the cervix uteri close to the vaginal attachment.

The bladder was now seen to have an oblique rent in it nearly 2 inches across; this was at once sewn up with a continuous silk suture; the rent was below the peritoneal reflexion, and where the muscular fibres of the tumour and bladder formed but one tissue.

The peritoneum reflected from the bladder was now with a continuous suture carefully united to that coming from the rectum, the line of union running from side to side across the bottom of the new *cul-de-sac* thus formed. By this means the pedicle, as also the wound in the bladder, and in fact the entire bed of the tumour, were rendered extraperitoneal.

After carfully sponging out the peritoneal cavity the wound in the parietes was united with nineteen sutures.

The operation was antiseptic throughout, and carbolised silk was alike used for sutures and ligatures.

A morphia suppository was given, and a Jacque's catheter tied into the bladder in place of the one that had been in during the operation.

The patient was under chloroform about two hours.

The subsequent history is briefly as follows:

Sept. 13, 4 to 10 P.M.—Had been quite comfortable, and had taken a little iced milk and brandy (ʒiv). Was sick once at 8·30 P.M. Temp. 98·4°.

Sept. 13, 10 P.M. to 9 A.M. 14th.—Passed a good night, vomited slightly four times. Iced milk and brandy in sips allowed now and then. Opium as pill or injection as necessary to procure repose. Nine ounces of urine passed by the catheter, but at 8 A.M. it slipped out, and being replaced in forty minutes two ounces were drawn off. The urine was reddish, contained blood-corpuscles and albumen, and deposited urates. The catheter gives no pain, nor is there any tenderness on pressure to speak of above the pubes. Abdomen flat.

Sept. 14, 9 A.M. to 8·30 P.M.—Comfortable all day until 5·30 P.M., when she began to vomit, and beyond the distress this caused her, she did not seem in any discomfort. Seven

ounces of urine were passed, and a fresh catheter substituted for the first one. Pulse full and strong. Temp. 99·4°. Opium continued as necessary.

Sept. 14, 8·30 P.M. to 9 A.M. Sept. 15.—Had morphia injection last evening, and has had three good spells of sleep, but each time she woke was violently sick for half to one hour. Slight tympanites and some pain on pressure over both iliac regions, but not severe. Could take nothing, iced water even causing vomiting. Fourteen ounces of urine passed, having the characters of that first described, but rather clearer. No mucus and reaction acid. Temp. 99·8° last evening, but was only 99° this morning.

Sept. 15, 9 A.M. to 9 P.M.—Patient was unable to take anything on account of vomiting which became very frequent, ceasing only when asleep. Morphia as a subcutaneous injection was given as required. Fourteen ounces of urine were passed of more natural colour and appearance. There was sufficient abdominal tension to make the patient complain of tightness, but there was no pain to speak of. Temp. 99° to 99·4°.

From this time (fifty-two hours after operation) up to the time of death—9 A.M. on Sunday 17th (eighty-eight hours from the operation)—the vomiting became incessant save when sleeping after the administration of morphia. Nothing whatever could be retained by the stomach even for a few minutes, and the patient eventually sank from sheer exhaustion. During the last twenty-four hours the temperature rose successively to 100°, 101°, and 103° at twelve hours before death; at 6 A.M. on the 17th the temperature was 101·6°, rising at the moment of death (8·45 A.M.) to 104·2°. The urine flowed freely to the last. Though looking worn and pale the face never assumed a marked abdominal aspect.

Post-mortem thirty hours after death.—Moderate distension of the intestinal coils, but no other evidence of general peritonitis; only those coils lying in the pelvis showed injection lines. The cavity of the pelvis showed inflammation, by dulness of the peritoneal membrane, but the line of suture of the serous membrane was already partly uniting and showed nothing remarkable. About 8 oz. of reddish serous fluid were found in the pouch between the rectum and bladder, but there was no trace of urinous smell about it.

The silk sutures being divided, the peritoneal union was broken open a short way with a probe, exposing the pedicle and its sutures covered with a firm red fibrinous clot; a similar exudation bound down the peritoneum to the

raw surfaces and bladder from which the tumour had been detached.

The bladder being now opened from the front, the rent in it was visible; it appeared united, but at two spots a probe entered between the stitches for one eighth of an inch, striking the fibrinous exudation that united the peritoneum to the rent in the bladder; no evidence of the urine having passed beyond the limits of the bladder could be obtained. The whole mucous membrane was red and injected, but quite firm under a stream of water. Neither in the bladder nor in the peritoneal cavity was there any sign of suppuration.

Of the parts removed at the operation the ovaries were enlarged and cystic, and the uterus had a small pedunculated fibroid at its summit, and another which was intramural. The tumour itself presented no special characteristics.

Remarks.—Whilst this case presents but few points of intrinsic interest, yet it is a duty to record one of so great magnitude, even though recovery did not follow.

The post-mortem examination showed nothing tangible that was sufficient to account for death, there was no general peritonitis unless the mere distension of the coils were evidence of it, whilst the pelvic inflammation was very slight. Union had practically taken place, both in the parietal and serous wounds. There did not seem to be enough to account for the incessant vomiting; and this which, clinically speaking, caused the patient's death, it is important to note had not only been one of the symptoms for which she sought relief, but had threatened her life ten years before, when suffering from enteric fever. With her, nausea and vomiting appears to have been an idiosyncrasy.

This case is also only another proof of the value of completely closing the peritoneal wound. Whatever sero-sanguineous effusion had taken place from the cut surface of the pedicle or the cellular tissue around, had formed a firm clot external to the peritoneum; whilst it had probably also been limited in extent from the fact that it occupied only a limited space, and was unable to leak into the general peritoneal cavity.

This is the first abdominal case in which I had employed a large apron of "green protective" thoroughly to cover the viscera during operation, and the facilities it gave to the manipulations in the pelvis I cannot overrate, apart altogether from its action as a protection to the intestines.

VIII.—*Two Cases of Spina Bifida treated by Glycero-Iodine Injection.* By H. H. Clutton. *Read Nov.* 10, 1882.

A BABY three weeks old was brought to the out-patient room of St. Thomas's Hospital last May, suffering from spina bifida. The baby was well nourished, and, with the exception of this imperfection, perfectly healthy. There was no other deformity and no paralysis of the legs. The spina bifida was situated in the lumbar region, sessile, and about the size of the closed fist. The aperture in the vertebral canal was large and the impulse as the child cried very marked. At the most prominent part of the tumour the skin was apparently absent, and the theca vertebralis exposed. A strong light transmitted through the cyst gave no indication of the presence of the spinal cord in its interior. It was said to be increasing in size, and from the extreme tenuity of its covering it was evident that the spinal fluid would soon be allowed to escape.

On May 16, when the baby was four weeks old, I injected ʒjss of the glycero-iodine solution (recommended by Dr. Morton) through the canula of an ordinary hydrocele trocar. This allowed a little fluid to escape, which was carefully preserved for analysis, but not more than two drachms was lost in this way. The puncture was carefully secured with collodion, pad, and strapping. The mother was instructed to keep the baby on its back, to prevent as far as possible the gravitation of the injected fluid into the canal. During the operation the same precaution was observed, the child being kept upon its back in a nurse's arms.

May 17.—The child had been very restless, the mother being obliged to nurse her all through the night. She had not taken the breast and was constantly crying. No sickness.

May 19.—Very much better. She takes the breast, does not cry, and sleeps well. Pad and bandage removed. The cyst was found to be much smaller and flaccid. The thin membranous part had entirely disappeared, and there was no impulse when the child cried. The cyst was apparently shut off from the general spinal cavity.

May 23.—Hardly any fluid to be detected in the sac, and the skin lies in loose folds. Child quite well in its general health.

On June 6, exactly three weeks from the date of injection, there was nothing to be felt of the spina bifida except a small

puckered lump of cutaneous tissue. The aperture in the vertebral canal could be felt, as before stated, to be a large one. The child was quite well.

An analysis of the fluid that escaped at the time of injection was made by Mr. Plowman, of St. Thomas's Hospital. He states that there was a slight but very distinct reaction in testing for sugar.

The case here recorded was, I thought, an exceedingly good one to test the treatment suggested by Dr. Morton, namely, injection with iodine, iodide of potassium, and glycerine, instead of tincture of iodine and water. The difference in diffusibility between the two solutions I need not dwell upon here. The coverings of the cyst were so thin that I did not think the sac could long remain entire. The child was otherwise quite healthy, and was evidently shortly to be sacrificed to this local imperfection. An attempt, therefore, to cure this deformity, even at some risk, was not only justifiable but imperatively called for. The constitutional disturbance after the injection was very slight, and by the third day the child was in its usual good health.

It may be instructive here to refer to two other cases of a similar nature in which I tried the same treatment. The general disturbance had been so slight in the spina bifida that I was tempted to try the effect of this injection in a case of occipital meningocele in a child eight months old. The cyst was large, hanging well over the neck, and quite translucent. I could neither see nor feel any brain substance in its interior, but a most distinct wave could be transmitted to the anterior fontanelle. The first injection of ʒj produced no effect in the size of the swelling beyond a slight inflammatory thickening of the integument for the first few days. The child was irritable and peevish for a day or two, but there were no convulsions and no sickness. After a few weeks the same treatment was tried again, and then a third time, but no permanent effect was produced. The child suffered no material inconvenience after any of the injections, the last of which contained ʒij of the solution. The cyst, however, seemed to be increasing in size, and the skull showed evidence of greater distension. Under these circumstances I thought it wiser to desist from further treatment. Enough, I thought, had been done to prove the apparent harmlessness of this injection under proper precautions. These chiefly consist in keeping the sac in a dependent position both during and after the injection; and in withdrawing as little fluid as possible from its interior.

Shortly after this experience another case of spina bifida in a baby two weeks old came under my care. The cyst was small, sessile, and situated in the lumbar region. The skin was in part ulcerated over its surface, and in part entirely absent, exposing the theca vertebralis. When the child was quiet the tumour was quite flaccid, and occasionally rising and falling with the respiratory movements. It could also at these times be emptied by gentle pressure. When the child cried the cyst at once became tense and unyielding. From these symptoms I am inclined to believe that the communication between the cyst and the cavity of the theca vertebralis was a large one; the bony aperture was of about the same size as in the first case. However, I determined to try the effect of the glycero-iodine injection. A syringe of the same construction as the ordinary hypodermic one was used, so that no fluid at all should escape. This seemed more especially necessary in this particular case, as the sac contained very little fluid. About forty to fifty minims were slowly injected with the usual precautions and the needle withdrawn. Convulsions immediately ensued and the child died within two minutes of the operation being completed. Unfortunately I was unable to procure a post-mortem examination, but I cannot help thinking that the injected fluid was sucked into the spinal canal and produced a directly irritant effect upon the spinal cord, or, which is, of course, quite as possible, that the cord was situated in the sac itself. The ulcerated surface mentioned above prevented one from obtaining so good a view of the interior as in the first case. The puncture was, as usual in such cases, made laterally, and as the walls were exceedingly thin the needle was inserted through the skin, about half an inch from the sac. One has, unfortunately, no possible evidence of the size of the aperture in the membranes before proceeding to this treatment, unless the symptoms detailed above in this case be taken to prove a wide communication. For the size of the aperture in the bony canal, if a large one, is not much of a criterion for a similar condition in the membranes. Of course if the opening in the bones be small the communication cannot be large between the theca vertebralis and the cyst, but the converse condition of a large bony aperture and small membranous communication is not, I believe, at all uncommon. This may account for the frequent success of the treatment by this method of using an iodine solution which is not easily diffused through the cerebro-spinal fluid. I think the innocent effect of the injection upon the meningocele may be explained by the

large size of the cyst and its thoroughly dependent position when the child was on its back. Whereas in the case that died the spina bifida was very small and not by any means distended with fluid; in fact, at times it seemed quite empty, and was distinctly affected by the ordinary respiratory movement. As regards the future, I shall not be deterred from trying the same treatment in other cases of spina bifida, notwithstanding the suddenly fatal issue here described, for babies with this disease rarely, if ever, live very long. I cannot therefore see that a treatment proved to have been signally successful in many cases and in the hands of different surgeons should be discarded on account of a few fatal cases, when the disease is one which rarely allows life to be continued for any length of time. Although these cases may not directly die from the bursting of the spina bifida, yet I think, considering the number of such cases that one sees in babies a few weeks old, and the extremely few, that are found in children of over one year, there must be some fatality attendant upon the presence of this deformity, when left to take its own way.

IX.—*A Case of Separation of the Epiphysis of the Clavicle by Muscular Action.* By Christopher Heath. *Read November* 10, 1882.

I WISH to put on record an example of an accident so rare that it is not mentioned by most surgical authorities, and only mentioned by others to be controverted, viz. the separation of the epiphysis from the inner extremity of the clavicle.

On May 9 I was asked by Mr. Gooch, of Eton, to see a boy of 14, who that morning while forcibly raising his arm to bowl at cricket in the modern violent over-hand style, felt something give way at his collar-bone, with great pain. I found the inner end of the right clavicle unduly prominent and presenting a sharp edge beneath the skin, quite unlike the smooth end of a bone covered with articular cartilage. The suprasternal notch was quite distinct and equally defined on both sides, and a thin lamella could be felt on the right side intervening between it and the gap caused by the starting forward of the inner end of the clavicle. On laying the patient flat on a mattress the bone at once slipped into place, and the deformity and pain disappeared. The arm was subse-

quently secured to the side with a plaster-of-Paris bandage and kept fixed for a month, after which gentle movement was allowed, but cricket forbidden for the season. In October Mr. Gooch reported the boy quite well, there being only a little thickening left over the seat of injury.

The clavicle, it is well known, is very early in its ossification, but the ossification of the epiphysis does not begin till about the eighteenth year. At fourteen, the age of my patient, the epiphysis must therefore have been entirely cartilaginous, and the thoroughly ossified shaft must have been torn from it by the violent muscular action. This does not imply, as has been erroneously supposed, a rupture of the strong costo-clavicular or rhomboid ligament, which, I believe, acted as the fulcrum upon which the bone rotated, the weight of the arm and shoulder drawing the outer end of the clavicle backwards and and throwing the inner end forward beneath the skin.

Dislocation forward of the inner end of the clavicle is ordinarily the result of extreme violence applied to the shoulder, though a case is on record of dislocation by muscular action. In all recorded cases great difficulty has been experienced in keeping the bone *in sitû* when reduced, and in some instances reduction has been effected with difficulty and could not afterwards be maintained. The ease with which the parts fell into proper position as soon as my patient was recumbent, and the readiness with which their coaptation was maintained favour the view that the case was not one of dislocation.

In conclusion, I may venture to call attention to the ease and promptitude with which fractures of the clavicle and humerus may be treated by the application of plaster-of-Paris bandages over an ordinary jersey, so as to form a light immovable apparatus, which requires, as a rule, no alteration or attention until the time arrives for its final removal.

X.—*Cases of Diphtheria treated by the Local Application of Borax and Boracic Acid.* By J. F. Goodhart, M.D. *Read November* 10, 1882.

I PLACE the following six cases on record because I am persuaded that the local treatment adopted tended largely to the recovery of some of the cases, and to the relief of the one that died.

I will first of all give short notes of the cases, and subsequently say what may seem necessary as regards the treatment adopted.

Case 1.—A boy, æt. 5½, was admitted into the Evelina Hospital on May 10, 1882. He had been quite well till seven days before, when he began to feel out of sorts. Four days later he was violently sick, and the next day had sorethroat, earache, and a watery discharge from the mouth.

When admitted his pulse was 138, his temperature 98°. The fauces were intensely injected, the uvula looked almost gangrenous, being a dirty black colour; the tonsils were closing the fauces, and on each was a very thick leathery mass of membrane. The urine was normal.

The patches, which were some of the thickest I have ever seen, were peeled off easily with forceps, and the fauces were subsequently sprayed every hour with equal parts of a saturated solution of boracic acid in glycerine and water. He was put into a tent, fumigated with creasote and carbolic acid vapour, and given quinine and iron internally. The next day another patch had formed on the uvula, and was peeled off as before, but there was no fresh formation on the tonsils. Temperature 98·4°; pulse 102. Urine still normal. From this time the formation of membrane was kept completely at bay; but the next day he began to vomit, his temperature rose, and his urine became albuminous to the extent of one half, next day it contained three-quarters, and the next was quite solid when heated, and he died with a low muttering delirium, a pulse of 150; temperature 104°, on the seventh day after admission.

Case 2.—A boy, æt. 3¾, was transferred to me from my colleague Mr. Howse. He was admitted for a severe scald of the calf with sloughing, and he was in a bed contiguous to others who developed diphtheria at the same date. He was taken ill on July 7 with a temperature of 104·5°; from this time onwards he remained feverish, and on July 10 a small membranous patch appeared on one tonsil. Not only so, the right nostril was swollen—exuded an abundant purulent discharge, and round its orifice was a layer of membrane, which when partially detached disclosed a spongy, red, bleeding sore. The urine at this time contained no albumen. The nose and throat were at once sprayed and mopped out with a saturated solution of boracic acid in glycerine; and this treatment was continued every two hours for five days. The formation of

membrane was considerable, but by means of spray and mopping it was always easily detached, and no fresh formation occurred after the sixth day. The urine now became slightly albuminous and so continued for ten days or more. He subsequently got quite well. No paralysis supervened.

Case 3.—A boy æt. 3½, also transferred to my care from Mr. Howse, under whose care he had been for disease of the knee.

He was taken ill on July 7 with a very croupy cough. The next day his throat was much congested and his tonsils inflamed, and on the 10th large patches of membrane appeared on the tonsils. The spray and swabbing were applied at first every three hours, patches of membrane being easily detached by these means, and at first, as the re-formation did not appear very active and he disliked the spray, we were content with this. On the 14th a considerable amount of membrane was removed, and on the 15th it had extended so much that the local treatment was repeated every two hours. At this time the urine contained $\frac{1}{15}$th albumen. The fauces, soft palate, and greater part of hard palate were covered with a thick adherent brownish membrane, and he had paroxysms of severe dyspnœa, so much so that the question of tracheotomy was discussed. Wanting, however, to give the treatment a fair trial, we decided to wait and spray and swab the throat more energetically, and the result was very satisfactory. His breathing became much improved, and he received so much relief from the spray that he was now quite ready to have it applied. On July 17 it is noted that he is now much better. Temp. 100. Not much membrane now to be seen on the tonsils; the soft palate looks sloughy but less so than before.

July 21.—Very much better; no fresh membrane, and nearly all the old has disappeared. The ulceration of mouth is very extensive; it includes both hard and soft palate, and is deep in the middle line. The uvula is ragged and the left tonsil sloughy-looking.

From this time the spray, &c., was applied every four hours. The ulceration of the mouth slowly healed. He had some paralysis of soft palate still remaining when he left the hospital on August 17.

The albumen disappeared from the urine in two days.

Case 4.—A boy, æt. 3½, under Mr. Howse for adherent prepuce. The temperature ran up to 101·4° on July 12, and

some patches of membrane appeared on the fauces, the tonsils being swollen and congested. The throat was swabbed out every three hours, and practically the fauces were kept free from membrane, though small pieces were removed on both 16th and 17th. The urine contained a trace of albumen on the 15th. He had no further bad symptoms and left the hospital well on August 1.

Case 5.—A boy, æt. 4, under my care in Guy's from May 11 to June 22. A croupy cough was first noticed on May 8, but he was not thought to be ill until the day of his admission. At that time his tonsils were swollen, and on the right one three small patches of membrane could be seen. His breathing was stridulous, but not distressingly so, and he spoke in a hoarse whisper. The urine was sp. gr. 1030 and did not contain any albumen. In this case the glycerinum boracis with 20 grains of bicarbonate of soda in two ounces of glycerine was the local application, the throat being swabbed out thoroughly every four hours. Chlorate of potash, bicarbonate of soda and glycerine, were administered internally. He went on well for three days, but on the morning of the 14th the breathing suddenly became worse and tracheotomy was performed after an ineffectual attempt at catheterising the larynx. During the operation he coughed up a piece of membrane and much mucus. The urine now contained albumen in considerable quantity. After the operation the plan of procedure adopted was the frequent removal of the tracheotomy tube, and the gentle mopping out of the trachea and larynx from below, the pharynx and rima from above, with the borax and glycerine. The operation wound, which became coated with membrane, was also treated in the same way. He repeatedly coughed up pieces of membrane, and on two occasions short casts of the trachea, but notwithstanding, the tube was removed for the greater part of the day within three or four days of the operation, and was finally discarded on May 21, eight days after the operation, and he was practically well on May 31.

Case 6.—A boy, æt. 8, was admitted to Guy's under my care from the out-patient room. His sister had died of diphtheria the day before; his mother and brother and father had all had sorethroats. The boy had been ill six days with sorethroat, fever, and delirium. His breathing had been bad for two days. When admitted his throat was extensively covered with membrane, at the base of which was some ulcera-

tion. The air entered the right lung very badly, and sonorous rhonchi were audible at various parts of the chest. No sucking in of the suprasternal or lower intercostal spaces. Glands enlarged on both sides of the jaw. Urine 1022, albumen about $\frac{1}{10}$th.

An emetic was given of sulphate of zinc and Vin. Ipecac., a great deal of mucus and some membrane being ejected with relief, and a similar local application to that in Case 5 was applied, the throat being swabbed out every two hours. Some membrane was easily detached on the 20th, the day after admission, and a large piece on the 21st, but no further formation occurred. He was in the hospital till August 30, as the albumen remained rather persistently in the urine, and did not finally disappear until August 18. Moreover, he also had a good deal of trouble from paralysis of his palate.

Borax and boracic acid have been used, and I suppose not unfrequently so, by individual practitioners at various times in the history of diphtheria, though not often, so far as I am aware, with any decided success, but it was the reputed antiseptic qualities of boroglyceride which more particularly induced me to try first boracic acid and then borax in these cases. Six cases are not sufficient ground for lauding enthusiastically any mode of treatment, and such is not my purpose at all in the present communication. I shall do no more than say that it seems to me that both in borax and boracic acid we have local applications which, if local applications are of any use at all, and of this I have no doubt whatever, well deserve to be remembered.

The first patient so treated died, nevertheless the boracic acid and glycerine seemed to be so successful in keeping the throat clear of membrane that it determined me to try it again. Of the other five cases let me say that three had laryngeal symptoms, and that in another the membrane attacked the nares. This will suffice to show that the cases were of some severity. But further than this, it is my belief that one of the cases must certainly have required tracheotomy had not the energetic application to the throat and rima relieved him. By its means, I take it, the membrane was softened and detached or coughed up. And the case in which tracheotomy was necessary, in like manner seemed to me to show the efficacy of the application in aiding the detachment of the membrane. I would add to this the fact that the application is an unirritating one—it was applied to the mucous membrane

of the trachea and the interior of the larynx with nothing but good result—and that the relief afforded has been sufficient apparently to dispel the dislike which children usually exhibit to any meddling with the fauces, for only in one case was there any persistent resistance to the treatment.

It is, perhaps, not altogether unnecessary to say, in conclusion, that local treatment in diphtheria, if it is to be of any use at all, must be carried out energetically. In the application of caustics it might perhaps have been sufficient to make use of the remedy once for all or occasionally, but where the object to be attained is the destruction of germs or the solution of the membrane, it is obvious that what is required is, as far as possible, the constant presence of the destructive agent. It has been found necessary to spray or swab the throat as often as every two hours, and I suspect that one of the chief uses of glycerine is in this respect, that it prolongs the contact of the antiseptic with the diseased mucous membrane.

XI.—*Symmetrical Congestive Mottling of the Skin.* By John Cavafy, M.D. *Read November* 24, 1882.

THE following two cases of a curious affection of the blood-vessels of the skin have come under my notice.

Case 1.—Kate O'B., æt. 22, single, applied to me as an out-patient in the skin department at St. George's Hospital, on March 20, 1882. She stated that she had been affected for three years with a gradually increasing reddish mottling of the skin, which she first noticed on the left shoulder; from this point it gradually spread down the arm, and soon afterwards made its appearance on the right arm, the cheeks, and both thighs, gradually increasing in intensity. At the date of her first visit the skin of both cheeks was faintly mottled with blotches and irregular rings and streaks of a dull red colour, most marked on the right side, neither prominent nor depressed, and covered by normal epidermis. Similar maculæ and irregularly confluent blotches and streaks, forming reticulated, annular, crescentic, and gyrate figures, occupied the extensor surfaces of both arms and forearms and the backs of the hands; they were more strongly marked than those on the face, being especially distinct over the left wrist, and varied in tint from a bluish red to a dull crimson colour; the front

and outer surfaces of both thighs near the knees were similarly marked, but more slightly. On close inspection of the markings, no injected and tortuous capillaries could be distinguished, but the colouring was more or less diffused, being deeper in some parts than in others; still, although the mottling was not sharply circumscribed, it contrasted strongly with the neighbouring skin, which was in all respects normal. The redness everywhere disappeared completely on pressure, leaving behind in the most congested parts a delicate fawn-coloured pigmentation; the markings also disappeared from the arms when they were held up, and again returned in a short time when they were allowed to hang down. The temperature of the surface was normal to the touch, slight coldness being produced after a time, no doubt by exposure. The patient had rheumatic fever a year before the mottling commenced, but no affection of the heart existed, and, with the exception of occasional dyspepsia, the general health was excellent. She had never suffered from any other affection of the skin, and was not specially liable to chilblains, but occasionally in cold weather one or two of her fingers would become pale and numbed.

During the month for which she continued to attend as a patient there was no essential change in the condition of the skin, but the mottling varied much in intensity on different occasions, and was sometimes so faint, especially on the cheeks, as to be barely recognisable. The markings were always intensified by cold and exposure, while, on the other hand, heat and greater activity of the circulation (as after exercise) caused them to diminish very appreciably, although they never disappeared completely; the upright posture favoured their production, no doubt owing to the action of gravity, as the markings were always faintest on rising in the morning and gradually became stronger towards nightfall; lastly, she stated that the mottling was worse at the menstrual periods. Throughout the whole duration of the affection there had been no pain, numbness, tingling, itching, or other abnormal sensation. The actual condition of the patient (who is now present) is unchanged; the mottling over the wrists and backs of the hands is, if anything, more strongly marked than before.

Case 2.—Sarah T., æt. 21, single, who is also shown to the Society, first applied at the skin department of St. George's Hospital on August 9th, 1882, and had then been affected in

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a similar manner for eighteen months. The mottling in this case began over the ankles and gradually spread to the legs and thighs; twelve months later the arms became affected, and quite recently slight blotching has begun around the waist; the face has remained free. The mottling is an almost exact counterpart of that in the first case, but more extensive, and of a deeper purple colour over both legs and the front of the thighs, especially near the knees; it is situated on the extensor sides chiefly, but also extends slightly over to the flexor sides; the surface, especially over the legs and thighs, feels rather colder than in the first patient. The congestion in this case also disappears completely on pressure, and from the arms when they are raised, and also leaves pigmentation visible after its removal in many places, especially over the patella. It is worse in winter than in summer, as is also the case with the first patient, increased by exposure, and diminished by exercise, warmth, and the recumbent posture, being always worse at bedtime and very faint or nearly absent in the early morning; it is not modified in any way during the menstrual periods, differing from the first case in this particular. The girl is in all respects perfectly healthy, and again no abnormal sensations accompany the mottling.

Remarks.—The condition above described is obviously due to venous stasis or passive congestion of the skin, and appears to be an exaggeration of the marbling often seen on the skins of children and young persons after exposure to cold (Livor e frigore), but this latter condition is much more uniformly distributed, usually affecting flexor and extensor surfaces of the limbs equally, and being commonly present (especially in children) on both aspects of the trunk also; it is, further, of uniform, or nearly uniform, intensity, being practically equally marked over the whole of the affected surface. In the cases I have brought forward, although it is true that cold intensifies the marbling, the congestion remains more or less evident at all times, is much more strongly marked than in Livor e frigore, is followed by pigmentation, and is symmetrically distributed, the remaining skin being quite unaffected.

The cause of the affection is difficult to determine. Congestion of the skin is sometimes produced by mechanical hindrance to venous outflow from pressure of articles of dress, such as garters, but this will obviously not explain the mottling in my cases, as it is strongly marked in parts (such as the arms and hands) which are not compressed, and in both cases the

marking on the lower extremities is strongest *above* the knee, *i.e.* on the proximal side of any obstruction which may be caused by garters. I think the condition is probably due to a vaso-motor neurosis, allied to the local asphyxia of Raynaud, but the share taken in its production by arteries and veins is not easy to apportion. In temporary mottling from cold we have probably to do with spasm of the terminal arterioles of the skin and consequent overfilling (from diminution of pressure *à tergo*) of capillaries and veins, the plexiform arrangement of the latter sufficing to explain the reticulated and annular or gyrate figures which are produced. But when the condition is chronic and nearly permanent, as in my cases, it is at first sight very difficult to suppose that the small arteries are contracted throughout, and further, the symmetrical distribution remains unexplained. The dull crimson or purple colour of the markings points to a venous origin, and I am inclined to suppose that the capillaries and venules in the affected parts are dilated, and the wide-meshed configuration of the markings would imply that it is chiefly the deeper plexus of the cutis that is implicated; but it should be remembered that the tint of blood seen through the skin depends upon the thickness of the sanguineous layer and the depth of its situation in the cutis, a superficial blood-stain, whether congestive or hæmorrhagic, being always of a brighter colour than one more deeply seated. If, however, the capillaries and small veins of a cutaneous district are permanently dilated, the terminal artery supplying such district may become empty of corpuscles from the increased resistance beyond it, and this emptying, the artery then containing serum only, is followed by contraction; it is quite possible therefore, in the cases before us, that the terminal arterioles of the affected parts are more or less empty and their channels consequently narrowed.

I am not able to explain the symmetrical distribution to my satisfaction, but it is probably largely due to the anatomical arrangement of the blood-supply of the skin. Tomsa has shown that thick parts of the cutis, and especially parts covered by a thick epidermis (as is the case with the outer and extensor surfaces of the limbs), are more richly supplied with blood-vessels than the remainder, hence any alteration in vascularity is more obvious in those parts. The absence of mottling from the palms is doubtless due to the fact that they have a richer arterial supply than any other parts of the skin of the extremities, and therefore the quantity of arterial blood, and the arterial pressure, are in large preponderance. But

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Dr. Cavafy's case of Mottling of the Skin

Plate II.

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without advancing too far into conjectural pathology, we may consider it certain that defective innervation is sufficient to give rise to similar effects. This is illustrated in a patient now under my care, suffering from heart disease and old embolic right hemiplegia, with late contracture of the fingers. His paralysed arm and hand are œdematous, cold, and marbled in a precisely similar manner, the markings being very strong about the elbow; the paralysed leg is also slightly marked in the same way, while the skin of the left extremities and rest of the body is quite normal in appearance.

The best account of the affection I have brought before the Society is given by Prof. Kaposi,* but it does not appear to have attracted much attention in this country; I have, therefore, thought it well to record the only two cases I have seen. The condition is certainly not common, and apparently quite harmless, not having led to any changes in my patients beyond slight pigmentation; but the disfigurement of exposed parts, as the face and hands, is considerable. The treatment employed (tonics and ergot) has not influenced the congestion in any way.

The accompanying drawings represent the state of the skin in both cases. (Plates I and II.)

Postscript.—The first of the two cases above described, Kate O'B., was admitted as an in-patient under my care on January 23, 1883, suffering from an attack of polyarthritis, which was in some respects unusual. Three weeks before admission she got wet through, and this was followed by pain in the right shoulder, then in the chest, and afterwards in the left knee; when she came in the left ankle was much swollen, red, and painful, and there was redness and swelling of both knees, chiefly the left; the affected joints felt hot to the touch, but there was hardly any fever, the evening temperature being only 99·5°, and the pulse quiet; the heart sounds were normal. Two days later the redness and swelling of the joints had quite subsided and the pain had practically ceased, the evening temperature on this day (January 25) being 98·4°. On January 29, the temperature remaining normal, the left wrist and hand became affected, and on the following day both knees and the left ankle were again much swollen, red, and painful, the evening temperature reaching 99·1°. By

* *Pathol. u. Therapie d. Hautkrankheiten*, ed. 2, p. 120. See also Auspitz, "Ueber Venöse Stauung in der Haut," *Vierteljahresschrift f. Dermatol u. Syph.*, 1874, p. 275.

February 5 the affected joints were quite well, a considerable effusion into the right knee having been very quickly absorbed, and the temperature, which had not exceeded 99·4°, had fallen to normal; but on this day, without any rise in the temperature, the metacarpo-phalangeal joint of the left index finger became suddenly very painful and was much swollen, especially over the palmar surface, which was not red but rather in a condition of acute circumscribed œdema. Four days later the affection of this joint had also completely subsided, and convalescence was afterwards uninterrupted. During the continuance of the arthritic attack the skin-mottling was frequently inspected and was found unaltered, being neither intensified nor diminished. She told us that on two occasions one of her fingers had suddenly become numbed and pale, this condition being followed by severe pain and a dull bluish-red colour of the affected finger, which was not swollen; the attack, she said, lasted about half an hour. Although I did not see her on either occasion, it is obvious from her description that she was attacked by the local asphyxia of Raynaud. The arthritic affection differed from rheumatism in the absence of fever and sweating, notwithstanding very considerable pain, redness, and swelling of the joints; it was also unlike osteo-arthritis in the points of complete and rapid subsidence, the shifting from one joint to another, the absence of symmetry, and the escape of the small joints of the fingers; it is impossible to suppose that gout had any share in its production, so that it appears reasonable to conclude that we had to do with a special form of rheumatoid disease.

The other patient, Sarah T., has remained under observation to the present time (May, 1883). The blotching and mottling of the skin are practically in the same condition as when she was shown to the Society, but lately, owing to the warm weather, less intense; the condition has increased a little round the wrist, but not elsewhere, and no local asphyxia of the extremities has occurred.

XII.—*Lumbar Nephrectomy for Medullary Carcinoma of the Kidney.* By James E. Adams. *Read November* 24, 1882.

JAMES B., æt. 39, labourer, was admitted into Turner Ward of the London Hospital, under the care of Dr. Down, on

February 10, 1882, complaining of pain in the loin and passing bloody urine. There was no family history bearing on the case.

Present state.—He is a large, well-built man, accustomed to laborious work, of fair intelligence, well nourished, but extremely anæmic, his lips being without a trace of colour.

Personal history.—About two years ago he noticed that the urine was always highly coloured after a hard day's work, and this condition lasted for several days at a time and was accompanied by pain in the right loin; finally, the pain became constant and blood appeared in the urine in large quantities, so that he frequently passed clots which from time to time obstructed his urethra so as to cause retention. The amount of blood in the urine varied a great deal from time to time, his urine being sometimes almost clear and at other times being nearly solid with clot.

No disease in any other organ was detected. There was no swelling in the abdomen, and the most careful examination in the lumbar region failed to disclose any enlargement of kidney. The urine at this date (Feb. 10) was amber-coloured, and contained albumen $\frac{1}{8}$, a good deal of pus, some renal epithelium, and bladder cells.

Bladder sounded for stone with negative result.

During the next four weeks blood was present in the urine almost constantly, and he complained of feeling something gritty during micturition, but the microscope revealed nothing more than crystals of triple phosphates, blood, pus, and epithelium. His liver became somewhat enlarged, and he was troubled with a cough.

Diagnosis.—The symptoms clearly pointed to disease in the right kidney, but what was its precise nature could hardly be determined from the evidence available. The excess of blood would lead one to suspect that there might be some malignant disease, but the presence of some pus and phosphates suggested calculus. Viewed by the light of subsequent revelations, the absence of any "sarcoma" cells in the microscopic field is remarkable although not inexplicable.

The patient was transferred to the care of Mr. Adams.

The disease being so far localised it was determined to explore the right kidney, and in the absence of any evidence of great enlargement, the lumbar incision was selected, opinions inclining to the idea of calculus.

The operation was performed on March 10. An incision was made parallel to and immediately beneath the lower border of the last rib, about four inches in length, through this the kidney

was easily reached, and its surface being exposed for a considerable extent, numerous punctures were made into it with a common sewing needle mounted in a handle, as suggested by Mr. Henry Morris. No calculus being found, the surrounding tissues were separated by the fingers so that the whole of the lower part of the kidney was free, but the upper part was found to be very much enlarged and adherent to the peritoneal covering. As it was now evident that the kidney was occupied by some growth, it was determined to remove it, and the incision was enlarged. In separating the adhesions the peritoneal cavity was opened and the thin free edge of the liver exposed. It was with no little difficulty that the organ was got through the wound and the propriety of resecting the last rib was entertained, but this was not necessary. The size of the organ prevented a separate ligation of ureter and vessels, so a very strong whip-cord ligature was made to encircle the whole. As the mass included in the ligature was very tough and resistent, two supplementary ones were put on and the mass cut off close to them. The wound in the peritoneum was closed with fine catgut sutures, and the external one by carbolised silk; the operation was done with antiseptic precautions (Listerian) throughout, but the ligature was not, strictly speaking, aseptic, as it had only recently been immersed in carbolic acid. No silk or gut was deemed strong enough for so large a pedicle. The stout ligatures were left hanging out of the wound taking the place of the drainage-tube.

The patient suffered only moderately from the shock of the operation, and would have been fairly comfortable had it not been for his cough, which was very troublesome. There was very copious discharge of bloody fluid, requiring frequent changes of dressings during the first twenty-four hours. The improvement in the condition of the urine was very marked and rapid, so that on the morning of the second day after the operation it was almost normal, depositing only a very slight mucous sediment; this was highly satisfactory to the patient, as he had been passing a large quantity of blood for some weeks before the operation without any intermission.

During the next fortnight the patient progressed very well as far as the wound was concerned, but his cough was very troublesome, and he caught a slight cold and suffered from sorethroat and enlarged glands in the neck. The ligatures came away on the eighteenth day, and by the end of the fifth week the wound was healed, and he was ordered to go into the garden.

Although the wound was healed there was no further progress towards recovery; he gained no strength, his cough was more and more troublesome, his respirations become more rapid, and it was evident that there was pleuritic effusion, and he was again placed under the care of Dr. Langdon Down on April 18.

The chest symptoms were now most prominent, no blood reappeared in the urine, but the amount of urea excreted began to be considerably diminished, and the total quantity of urine also.

There was dulness posteriorly over both lungs, hyper-resonance in front, diminished vocal fremitus, œgophony and bronchophony, and a harsh to-and-fro friction sound audible anteriorly and posteriorly above the line of dulness, loudest at angle of left scapula.

Dr. Down thought the friction sound pericardiac, the sound being transmitted through the solid lung. The pulmonary disorder he attributed to renal inadequacy, and thought there was a tubular nephritis of the remaining kidney. The rapid onset of the pulmonary symptoms he considered as being rather opposed to the view of secondary deposits in the lungs. The temperature during the last fortnight never rose above 99·6°.

The patient died on April 23, forty-four days after the operation.

Autopsy.—Body œdematous, pale, and anæmic.

The operation wound in right loin soundly healed.

Chest.—A large effusion into both pleuræ, a few flakes of lymph at the left base upon the diaphragm.

Lungs.—The lungs appear to have been compressed much during life; they were free from adhesion to chest-wall, except the upper lobe of right lung which was adherent to a cancerous mass involving the third and fourth ribs. The lungs were firm, œdematous, containing but little blood or air. Bronchial glands not enlarged.

Heart.—Pericardium contained several ounces of pale serous fluid. Deposits of recent lymph on visceral pericardium. Ventricles flaccid, muscular tissue soft and thin.

Abdomen contained a good deal of fluid. No evidence of any general peritonitis. A few patches of organised lymph at site of right kidney. Left kidney: renal vein completely plugged with a firm, decolorised, adherent clot. The kidney itself was large, cortex swollen. Several small cancerous nodules were found in its substance, but none larger than a small pea.

The lumbar glands were converted into a soft brain-like material on both sides.

The third and fourth ribs on the right side, and the seventh on the left, were involved in masses of the malignant growth, and were easily broken at this point.

There was general œdema of the subcutaneous cellular tissue throughout the whole body, and the effusions into pleuræ, pericardium, and peritoneum already noted, appeared to be due to general dropsy rather than to any acute inflammatory mischief.

Description of kidney.—The growth in the kidney is described by Dr. Charlewood Turner, Curator of the Museum at the London Hospital, as a true carcinoma.

XIII.—*Two Cases of Subcutaneous Rheumatic Nodules.* By Dyce Duckworth, M.D. *Read November* 24, 1882.

CASE 1.—Sarah Clarke, æt. 24, a domestic servant, living in Islington, came to St. Bartholomew's Hospital on May 31, 1882, complaining of certain painful swellings upon the right hand and knee.

She was well-nourished, of sallow complexion, with slightly vascular patches on the cheeks, and dark-haired (asthenic arthritic diathesis). Has had no serious illness, and not had rheumatic fever or chorea. For the last eight years has occasionally suffered from pains in limbs and the joints, and these have been much worse of late. Cracklings are felt on moving the knee and shoulder-joints.

Eight months ago first noticed swellings on her right hand, elbow, and knee. These are found most numerous on the right hand. Inside the thumb two rather large nodules are seen, another is situated on the forefinger on the distal side of the second phalanx, and one lies over the last joint of the middle finger. The extensor tendon of the middle finger on the hand is also covered by a nodule. Two are found inside the left thumb, one on the extensor tendon of the left forefinger, and one on the last joint of the second finger. The fingers generally are knotty at the joints, and the right little finger is twisted outwards from the last phalanx. A nodule

is found on the right olecranon and several over the patella. The bursa over the latter is swollen.

These nodules are quite subcutaneous, always tender when pressed, and sometimes they are very painful, always aching more in damp weather.

There was no known history of rheumatism in the family. The tongue was pale and flabby. On careful examination of the heart, it was found that the apex-beat was in natural situation, and that the first sound was slightly reduplicated at the apex and somewhat rough. The urine was alleged to be occasionally thick.

I had casts made of the right hand and knee which illustrate the situations and sizes of the nodules. Some of these were very small, apparently in their earlier stage of formation, and pale. They grew redder as they enlarged.

I did not see this patient from June 14 to October 28, during which period she had been treated with cod-liver oil and iodides of potassium and iron.

On examination at the latter date it was found that some new nodules had appeared, and that of the older ones some had grown larger and redder. Thus, over the first phalangeal joint of the left ring finger there is one, and two have formed at the last joint of the middle finger (constituting Heberden's nodes), two have appeared over the left patella, and several have grown on the great and small toes of both feet.

There has been continued aching in the joints, and much about the deltoid muscles.

The apex-beat of the heart seemed a little displaced outwardly in the line of the left nipple, and more forcible than formerly. Roughening and slight reduplication of the first sound still appreciable.

The tongue presented a thin yellowish fur. Bowels acted regularly. Has been much kept indoors, only going out once a week. She has found that when washing with soda in hot water the joints of her hands ache and swell, but do not become painful if no soda is used.

I prescribed cod-liver oil and compound confection of sulphur of the hospital Pharmacopœia.

Case 2.—Ellen Lemay, æt. 9, a school-girl, living at Hackney, was brought to me on June 17, 1882, by my colleague Mr. Walsham on account of subcutaneous rheumatic nodules.

She was a fair-haired and fair-skinned child, with blue

eyes. Her nose and finger-ends were clubbed and dusky in tint. Nails striated. Teeth well-enamelled, edges serrated. Tongue clean.

The history showed that there were pains in the feet, knees, and arms two months previously, and she kept her bed for a week at that time. The legs and hands swelled "as if there was dropsy." Never had chorea.

At the same time, two months ago, her mother noticed the little nodules on the ankles, elbows, and knees.

There are now to be seen subcutaneous nodules on the sheath of the extensor tendon of second right middle finger, over metacarpus; over right olecranon, moveable; on the spine of the sixth dorsal vertebra, two rather large over the right patella, two or three over the left patella, and one on the right external malleolus.

The heart shows signs of mitral regurgitation well-marked.

July 5.—The nodules over both patellæ look bigger than at last visit. A cast was taken on June 17. The child ceased to attend subsequently, and on writing to the parents' address it was found that the family had moved. There was no reason to suppose the cardiac disease to have been of congenital origin.

Remarks.—Both of these cases supplied well-marked examples of rheumatic subcutaneous nodules. The rheumatic history was sufficiently well-established in the second case, and there was no mistaking the rheumatic habit in the first patient.

Both instances were in females, in which sex the majority of cases have been met with. The nodules have lasted for a longer period in the first case than has been observed in any previously recorded instance, viz. fourteen months, and even now there is activity in those existing, and tendency to fresh formation. Five months is the longest recorded period during which these rheumatismal nodes have lasted. The heart was affected in both cases.

The several facts elicited from both instances go to support the careful observations on this affection made by Drs. Barlow and Warner, and communicated by them to the International Medical Congress last year.*

* *Trans. Internat. Med. Cong.*, 1881, vol. iv, p. 116.

XIV.—*Three Cases of Intussusception treated by Abdominal Section.* By Rickman J. Godlee, M.S. *Read December* 8, 1882.

In the present paper I propose merely to put on record an account of three cases of intussusception, in which resort was had to abdominal section for the reduction, and in one of which a successful result was obtained. The whole subject, and especially that part of it which deals with the circumstances under which such an operation should be undertaken, has been so often and so exhaustively treated by other writers, particularly by Mr. Jonathan Hutchinson in his elaborate paper in the *Medico-Chirurgical Transactions* for 1874 (vol. lvii), that it would be useless for me to enter into a detailed discussion of the question; I will therefore give, as briefly as possible, the facts of the three cases, adding little or nothing in the way of comment.

Case 1.—W. T. D., æt. 9 months, was admitted into University College Hospital, under my care, on March 9, 1881, when the mother gave the following account of her child's illness. It appeared quite well until the afternoon of the 5th (four days previously) when it was suddenly seized with a pain, apparently very severe, in the abdomen, which caused it to scream out and draw up its legs, and tighten its abdominal muscles; and this was followed on the same afternoon by the appearance of some blood with the motions. The usual course of events then set in—the child always more or less in pain, though of varying intensity,—blood and mucus unmixed with motion passed at frequent intervals, and the strength gradually becoming exhausted, till, on the morning of the 9th, a tumour was discovered in the rectum and the child was sent to the hospital. The mother, however, asserted that on the morning of this day the child had passed some natural motion, and had taken the breast more freely than it had done since the onset of the mischief. She also said that the bowel protruded at the anus the day before admission. The child had been retching and vomiting more or less since the commencement of the attack.

When it was admitted, in the afternoon, the symptoms of intussusception were obvious; the piece of bowel which protruded from the anus being of a dark-purple colour, but shining, and without any appearance of sloughing. There

was a little brownish blood and mucus on the napkin. Some anodyne had been administered before admission, probably morphia, as the pupils were somewhat contracted, and the child did not therefore appear to be in much pain. The pulse was about 200 in the minute, and the child was evidently in a very weak state. It appeared to me, indeed, to be so much exhausted that I was doubtful whether much should be attempted for its relief. I tried, however, the effect of inflating the bowel with air by means of a Higginson's syringe, and afterwards of inflating it with water, while the patient was held up by the legs; but both escaped as quickly as they were blown in, in spite of all our efforts. No anæsthetic, however, had been administered while this was being done. Thinking that no good result was to be expected from this line of treatment, without doing more than the child in its enfeebled condition could bear, I at once placed it under the influence of chloroform, and proceeded to open the abdomen. The surrounding parts were first cleaned with one in twenty carbolic acid lotion (special care being devoted to the umbilicus), and all the steps of the operation were conducted with antiseptic precautions; but in order to prevent too great a chilling effect from the spray, the upper and lower parts of the body were wrapped in a thick layer of cotton wool. The incision was not quite four inches long, and extended for an equal distance above and below the umbilicus, and, as soon as a small opening had been made in the peritoneum, the remainder of this membrane was divided upon a broad hernia-director. A flat sponge was placed at the right side of the incision, by which means the small intestines were prevented from protruding; but this was also greatly helped by the fact that the wound was almost completely plugged by the finger and thumb of the left hand and the forefinger of the right hand, which were inserted to seize and manipulate the bowel. There was no difficulty in tracing the colon, with the intussuscepted portion contained in it, up from the rectum to midway between the splenic flexure and the umbilicus, at which point the entrance of the small intestine into the large could clearly be felt. This portion of the bowel was then drawn out into the wound, and the intussuscepted portion was gradually reduced without any material difficulty. The small intestine was grasped by the left hand, and the large intestine was unrolled for a short distance from it with the right hand; as soon as about an inch of small intestine had been thus exposed, the finger and thumb of the left hand were shifted so as to grasp it and

prevent it from receding, and then the manœuvre was repeated. The last portion to appear was the cæcum with the vermiform appendix, which were placed as nearly as possible in their natural position, and then the abdominal wall was brought together with three carbolised silk sutures, after the manner of an ovariotomy, three or four superficial stitches of catgut being added to ensure a close approximation of the skin. A large mass of iodoform wool was placed over the wound and secured firmly with a flannel roller.

The child vomited just before the bandage was applied but did not retch for long. It was somewhat chilled by the operation, and at the end was almost pulseless; it did not begin to take notice till half an hour after it was taken from the theatre. During the night it was given five minims of brandy in a little milk every hour; it was not sick and did not appear to be in much pain, though it occasionally screamed and strained a little. The following morning it looked lively; it had a temperature of 104° and a pretty full pulse of 170, and it appeared to be in a little pain.

In the afternoon of this, the day after the operation (March 10), the temperature continued to rise, reaching 105 at 4 P.M. The bowels were constantly and freely opened, and the child was very restless and appeared to be suffering a good deal of pain, for which reason a drop of laudanum was given; the five-minim doses of brandy being continued every hour as the pulse remained about 200, and was still weak. In the course of the night the child was sick several times; the temperature, however, gradually fell, reaching 101° at 11 A.M. on the 11th March, while the pulse continued of the same frequency, namely, about 200. In the afternoon of this day the temperature remained the same, but the child was less restless and apparently more comfortable. Two more minim doses of laudanum were administered in the day and one during the following night. The bowels were only opened once during the day, and there was little or no sickness. During the night it slept well at intervals, and on the morning of the 12th the pulse had fallen to 140, the temperature still ranging from 100·8° to 101·2°.

On the morning of the 13th the appearance of things had decidedly improved, but as the bowels were still opened rather frequently, a drop of laudanum was ordered every four hours; and in the afternoon, as a little discharge had run down under the dressing, this was changed while the patient was under the influence of chloroform. It was then found that the con-

dition of the wound was enough to account for a good deal of the child's discomfort, for a little matter had formed in the track of each of the deep stitches, though the edges of the incision were uniting very nicely, except at the lower part, where a little superficial gaping had occurred. The stitches were all removed and the dressing was reapplied as before, with the exception that an extra strapping was placed outside the wool, and a piece of oiled-silk protective was laid next the wound.

The temperature on the evening of this day fell to 99°, and afterwards it only reached 100° on one, the following, day.

On the 14th the opium and the brandy were discontinued.

On the 16th the dressing was again changed, this time without chloroform, and though some pus was found on the dressings none could be squeezed from the places where the sutures had been. Beyond this there is nothing in the case to relate, except that when the dressings were finally changed on March 20, that is, eleven days after the operation, the wound was found to be completely healed, and the child was in perfectly good health.

I am afraid I was unduly influenced by the successful result in this case, which at first looked very unpromising for an operation; so that when another child was brought to the hospital within a few days, with a much more recent and smaller intussusception, I did not have recourse to inflation, which might very likely have proved successful, but proceeded at once to the abdominal section. I cannot acquit myself of thinking too lightly of the danger of setting up peritonitis by the operation, if carried out antiseptically, but I am still disposed to think rather gravely of the exhausting effects, and often futile result of prolonged attempts at injection and inflation. In both cases we made the spray as small as seemed consistent with safety, but it must in fairness be said that, in the second case, I think it was too small, for, at the end of the operation, it was noticed that our fingers were remarkably dry; and though, no doubt, many will observe that the utility of the spray, in what is now called "abdominal surgery," is, by high authorities, considered problematical, and though some weight must doubtless be given to this opinion, still in the presence of a spray one is less careful about the constant cleansing of fingers and instruments, and may thus perhaps be less conscious about other antiseptic details than are those who have discarded the spray altogether. I do not wish to make too much of this point, but merely mention it as one of the possible

causes of the fatal peritonitis which ensued. The case is as follows:

W. H., æt. 7 months, who was previously in good health, was seized on the morning of March 21 with sudden pallor, followed by vomiting, which was frequently repeated, and in the afternoon by the passing of blood from the bowel. At first there did not seem to be much pain. He was given a dose of castor oil.

On the following day, March 22, the child was worse, suffering from frequent attacks of painful straining, and the bowels acted several times, the motions containing fæcal matter as well as blood; there was, however, less sickness. On the 23rd the condition was worse, the symptoms being the same, and he was brought to the hospital.

The child lay at times apparently quite free from pain, but at intervals it was seized with pain of a very severe character, which caused it to arch its back and cry out until the spasm had passed off, when it again became quiet. Nothing abnormal was found on examining the rectum. When the straining occurred some pinkish mucus, apparently containing a trace of fæcal matter, was passed. A distinct moveable, sausage-shaped tumour was felt to the right of the umbilicus. The child was watched for four hours after its admission, and then it was placed under chloroform and the tumour was examined more carefully. It was about three inches long and very moveable, especially from above down; it was firm, and could be grasped readily between the fingers and thumb, when the abdominal muscles were completely relaxed. I thought at first that after squeezing it a sudden diminution of size occurred, but as a considerable mass remained I decided to open the abdomen in order to effect a reduction. This was done precisely as in the previous case, except that the incision was scarcely more than two inches long. The finger was at once passed into the right iliac fossa and the mass was easily reached; the ilium was then grasped as it entered the tumour and drawn towards the wound, in doing which reduction took place. When drawn out in order to examine it, it was found that both the cæcum and ilium were thickened, uniformly red, and the surface of the latter especially had lost its polish. The rest of the intestines were natural in appearance. But little exposure of the other intestines took place, as they were retained in position by sponges. The sutures and dressings of protective, carbolic gauze and iodoform wool were applied

and secured by a flannel roller. The temperature before the operation was 99·4°.

The child was restless during the night, and a minim of laudanum was accordingly administered at 11 P.M., another being given at 5 A.M. The effect of this was to make it more quiet, but it was sick four times during the night, and next morning the temperature had risen to 104·2°, the pulse being 200 and full. Throughout this day there was but little pain, and apparently no tenderness; the bowels acted twice, on the first occasion the motion consisting only of mucus, and on the second a very little fæces. It took the breast well till the evening, but during the night of the 24th it became sick and did not sleep at all. Another drop of laudanum was given at 11 P.M., but there did not seem to be any great pain; the temperature, however, gradually rose to 105·2°, and the child died with a slight convulsion at 9 A.M. on the 25th.

At the autopsy it was found that a little puriform fluid separated the deeper parts of the incision, and that the omentum was firmly adherent to the abdominal wall in this situation. There was a general peritonitis, shown by an almost puriform fluid lying amongst the coils of intestine, and a little muddy, blood-stained fluid in the most dependent parts of the abdomen. There was marked thickening and redness about the cæcum and vermiform appendix, and the last two inches of the ileum. On slitting up these parts the mucous membrane was found to be much swollen and inflamed, but especially in the ileum, where small superficial patches of ulceration had taken place, the lumen of the gut at this part being very much obstructed by the swelling. The appearance of the ileo-cæcal valve was that of a ring of deep-red mucous membrane, half an inch deep, projecting into the cæcum. The condition of things corresponds very closely to that of a wax model of an intussusception in the museum of University College, which I have accordingly placed on the table for comparison. The rest of the intestines contained remarkably little material of any kind, and no blood was found in any part.

A third case occurred to me within a short time of the foregoing, in which I regret to say I committed a blunder in the performance of the operation. It made no difference in the result, the case being, as the post-mortem showed, hopeless, but a description of it may perhaps be instructive to those who have a similar condition of things to deal with.

H. L., æt. 14 weeks, was admitted into the North-Eastern

Hospital for Children, under the care of my colleague Dr. Sansom, on June 23, 1882, with marked symptoms of intussusception, the intussuscepted portion being clearly felt at the anus, and the belly much distended and very tender. The child was much collapsed, but unfortunately the notes omit to mention the length of time during which the symptoms had been noticed.

We considered that abdominal section afforded the best, if not the only, chance of relief, and accordingly the child was at once put under the influence of chloroform, and the operation was proceeded with in the same way as in the other two cases. The abdominal cavity contained a considerable quantity of blood-stained fluid, a condition of things which had not been observed in either of the other two infants. There was much more difficulty in tracing up the colon to the point at which the inversion occurred, and when it was found the reduction was not so readily effected as in the first case. This arose principally from the fact that the point of inversion was deeply situated in the splenic region, but, as might have been expected, the difficulty diminished as the bowel was drawn out. I drew out a considerable quantity of small intestine, and at last the cæcum and vermiform appendix made their appearance. They came out with a slight jerk, and this, together with the appearance of things, made me think that the reduction was complete. The cæcum was accordingly drawn over towards the right iliac fossa, and the stitches were applied as in the other cases. The child, however, never rallied, but continued to vomit and died eight hours after the operation.

A post-mortem was obtained with difficulty and was somewhat imperfectly made. It was found that while little more than four inches of bowel had been reduced, nearly seven inches more of the large intestine were still included. It was, I think, quite clear that we were dealing with only one intussusception and not a double one, such as has been noted in some cases. It thus follows that the commencement of the involution had occurred, not at the ileo-cæcal valve, but at some point in the course of the transverse colon, so that the volvulus consisted not, as is usually the case, of an equal quantity of small and large intestine, but of a much larger proportion of the latter than of the former.

I was possessed with the preconceived idea that the involution almost invariably commences at the ileo-cæcal valve,

and either that the small intestine alone passes into the colon, or (what is far more common) that the ileo-cæcal valve passes in, taking with it an equal length of small and large intestine, so that when protrusion of the intussuscepted part occurs at the anus, it is actually the ileo-cæcal valve that usually presents at this situation. I was therefore predisposed to look upon the appearance of the vermiform appendix as a sign that the reduction was complete, and have no doubt that I overlooked the fact that an involution still remained beyond it. It may seem to those who have not performed the operation that this is an inexcusable mistake, but it must not be forgotten that the investigation of the parts concerned is made as much almost by the touch as by sight, and that in such a case as this it may be very difficult to hold the small intestines effectually out of the way. Besides which, the precise point of involution is, at the best of times, not particularly easy of detection.

The lesson to be learnt undoubtedly is that a very careful examination should always be made after the vermiform appendix appears, so that the operator may be certain that there is an actual continuity of serous membrane between the part which has been reduced and that from which it has been drawn.

There was a point in this case which I confess ought to have put me on my guard against this mistake. In the usual form of intussusception, if the bowel protrudes at the anus half the large intestine must have been turned in, and the point of involution should thus be somewhere on the proximal side of the splenic flexure, as in the first case. Here it was somewhat on the distal side of the splenic flexure, as indeed would almost certainly be the case if the intussusception begin in the course of the large intestine. Some sloughing of the cæcum had occurred over a space as large as a crown-piece, so that it is clear that even if complete reduction had been effected the child could hardly have recovered.

How far should a consideration of these three cases encourage or discourage us to undertake an operation for intussusception when occurring at an early age? The last, perhaps, hardly bears upon the question, because the disease was so far advanced that, considering the exhausted state of the child, there was no chance of recovery whatever line of treatment had been adopted, not even if separation of the whole intussuscepted portion of the gut could have occurred by a process of sloughing; and I may here express the

opinion that considering how rare a favorable termination in this way is, especially in very young children, it is not one that the surgeon is justified in waiting for. It is, however, so far, like the first case, encouraging, because it was clear that the actual pulling out of the included portion of gut would not have caused any material difficulty, in fact, in each of these cases this difficulty did not present itself. Instances have been recorded in which the reduction was well nigh impossible, and others in which the peritoneum covering the volvulus split transversely as the bowel was drawn out; probably I was exceptionally fortunate in this respect, but I would especially direct attention to the precise method of manipulation that was adopted, which was founded on what I gathered from reading Mr. Hutchinson's interesting account of a case in the *Med.-Chir. Trans.* for 1876. Inflation of the bowel has undoubtedly in a certain number of instances proved successful, and if it could be relied on with any degree of certainty, it would unquestionably be a less formidable proceeding than abdominal section; but if the experience of other surgeons is like mine, they will agree that for one success there are a very large number of failures, and that the immediate effect upon the child of repeated attempts of this nature is to produce a very considerable and serious amount of exhaustion. There are, I believe, some cases in which prolonged efforts have been crowned by a dismal travesty of success, in which the surgeon has had the poor satisfaction of finding the intussusception reduced post mortem, and has had to console himself with the reflection "Il est mort mais il est mort guèri." It is seeing and knowing of such examples that make me personally disinclined to do very much in this direction; though I quite allow that in a case like the second, where the intussusception is recent and the strength good, it is a better line of treatment to pursue than that which I adopted. A point has been suggested as a possible explanation of such a peritonitis as occurred in this case, namely, that in effecting a reduction a piece of acutely inflamed gut is placed freely in the peritoneal cavity which was before practically excluded from it; this may be an exciting cause of peritonitis, not only from the fact of its being itself inflamed, but also perhaps because it may be infiltrated with organisms which from its weakened condition have been able to penetrate its substance. One thing is certain, that the affected parts are much more swollen than in the first case; even now, after the specimen has been in spirit for months, this is very obvious, and at the time it was not

only clearly felt, but it was noted that the end of the ileum had distinctly lost its gloss. So great, indeed, was the thickening that even after reduction this piece of intestine formed quite a palpable tumour, which might not improbably have been felt through the abdominal walls, a fact which seems to me well worthy of recollection in cases where the reduction is being attempted by means of inflation or injection.

XV.—*Three Cases of Intussusception treated by Inflation.*

By Frederick Taylor, M.D.

CASE 1.—Mary Ann K., æt. 5, was admitted under my care into Guy's Hospital on June 18, 1881. Previous to the present illness she had always been a healthy child. Ten days ago she was suddenly pulled off a doorstep, and immediately complained of intense pain in the hypogastric region. A medical man was consulted, and is stated to have "treated her for pain in the stomach." The following day she was brought up to the surgery at Guy's, and her mother was requested to leave her in the hospital, but declined. Seven days ago she was taken to Dr. Hugh Adcock, of Grange Road, Bermondsey, who felt the swelling in the abdomen, and recognising the disease put the child under chloroform, and performed inflation by the rectum. This he repeated on two other occasions, the 13th and 14th inst. respectively, but he could neither remove the lump nor relieve the pain. At one time her water was scanty, and Dr. Adcock drew some off; since then it has been quite normal. The child has been in constant pain. The bowels have been open every day, three times on the first. On the second day the motions were knotty, white, and bloody; every day since they have been relaxed, and blood has passed each time, until the last two days, on which there has been no blood. There has been no sickness.

On admission she was a healthy-looking child, suffering from considerable abdominal pain, occurring in paroxysms. In the upper part of the abdomen, above and to the right of the umbilicus, was a tumour, about 3½ in. long by 2 in. thick, its long axis placed transversely, and reaching from the middle line to near the tip of the tenth rib. (See Plate III, case 1.) It could be seen to move freely with respiration. To the touch it was at first soft, but while being manipulated it became harder and

at the same time the child winced, whined, and cried with pain. At other times there was visible peristalsis in the mass, coinciding with expressions of pain on the part of the patient. The abdomen was elsewhere soft and free from pain or tenderness, the other organs appeared perfectly healthy. She was immediately ordered three drops of tincture of opium in a little syrup and water, and three hours after admission chloroform was administered. The tumour remained as before. A gum elastic enema tube of the ordinary size was connected with a pair of bellows and inserted into the rectum. I placed my hand on the abdomen at the same time, and air was gently driven into the bowel; at first there was no perceptible result, the bowel was not even distended in its lower part. The bellows were then worked more vigorously and air escaped noisily from the anus. The buttocks were then pinched together over the tube, and the rectum, and sigmoid, and descending colon were seen to become distended in successive short lengths. While I was watching this I felt a disturbance and gurgling under my hand, and then on careful examination found that the lump had entirely disappeared. The pressure of air was kept up for a few minutes, and the child was left perfectly quiet on the bed where the operation was performed. On waking from the chloroform another dose of three minims of tincture of opium was given, and another dose five hours later. She was kept quiet in bed and fed on milk only.

On the morning of the 20th, two days after the operation, she had been perfectly free from pain, there had been no return of the tumour, and no vomiting. The bowels had not been opened. Later on the same day the bowels were moved slightly.

A warm water enema was required on the 24th, but the bowels were afterwards opened naturally, the pain and tumour never returned, and she went out quite well on the 27th, nine days after the operation.

In January, 1883, I ascertained that she had no return of the symptoms since, and was quite well.

Case 2.—John H., æt. 8, was admitted under my care into Guy's Hospital on June 11, 1881. He had always been a healthy child. On June 5 he had come with his friends from Cork, and after this had some straining at stool, but no diarrhœa. On June 8 he had diarrhœa, and during the night he complained of pain in the stomach; sickness supervened, and continued until the date of admission, green fluid being

vomited. The diarrhœa stopped on the 9th, and since then the bowels have not been opened. On the 10th the boy's mother noticed a lump in his abdomen, which was very painful when touched. Nothing is known of blood having been passed per anum.

When admitted on Saturday night he appeared a healthy boy, and fairly well nourished. He lay on his back, with flushed face, complaining of pain in the abdomen. The abdomen was soft, of natural fulness, and presented in the right hypochondriac and epigastric regions an elongated tumour, lying transversely, from 3 to 4 inches long, about 1½ inch in width (Plate III, Case 2 *a*). In consistence it varied; it was sometimes comparatively soft with an ill-defined margin, but after manipulation and at other times it was hard and well defined. At such times the left extremity was the better defined, the right seeming to lose itself in the bowel in the right flank. He did not appear to suffer severe pain, nor to have the same paroxysms as occurred in the first case. The rectum was found to be full of pasty fæces. The heart and lungs were normal. Shortly after admission he vomited a considerable quantity of dark green fluid. At half past twelve at night he was ordered an enema to clear his rectum, and seven minims of tincture of opium were taken internally. During the night he slept moderately well, but vomited some more dark green fluid mixed with milk. On seeing him again on Sunday morning, and hearing that the conditions were precisely the same, it was decided to attempt inflation, and it was not until chloroform had been given that I myself again examined the abdomen. I then found that the tumour instead of lying transversely across the upper part of the abdomen was situated on the right side, nearer the position of the cæcum, and was oval in shape, the long axis vertical (*b*). Previous to the administration of chloroform it was observed that his abdomen was painful, the slightest touch over the situation of the tumour giving pain. The bellows were used in the same manner as in the preceding case, and air went up very readily into the abdomen and seemed to fill the whole of it, as if it actually passed through the invaginated part of the intestine. When the abdomen appeared quite full of air inflation was stopped, and I kneaded the abdomen carefully with my hands, trying to bring the air round from the left side of the abdomen towards the obstruction. After a short time the abdomen sank a little as if the air was escaping; some more was blown in, and the kneading

operation repeated. This was done two or three times, so that after the lapse of ten minutes the tumour gradually got smaller, at the same time being driven farther and farther towards the cæcum, and finally nothing could be felt but a small lump the size of a lymphatic gland in the neighbourhood of the umbilicus, between it and the cæcal region. A little opium was given, and the patient kept quiet, and ordered 1 oz. of milk every hour. At 11 P.M. he had not been sick; the bowels had not been open; he appeared comfortable, and was in no pain.

June 13.—The abdomen is a good deal distended, but no lump can be felt, and palpation causes no pain. At 3 A.M. he was sick, but brought up only a little milk and mucus, and no bile. Nothing has passed by the bowel. The tongue is slightly furred. He has not passed any water since yesterday, and the bladder is distended. Temperature is normal, the pulse 80. At 3 P.M. he had passed water freely. It had a sp. gr. of 1022, and was free from albumen.

June 14.—Appears quite well. No sickness. Bowels not yet moved. Abdomen natural, but presents a small lump the size of a gland in the right inguinal region. No pain. He takes food well. Tongue clean. Temperature normal.

Enemata were now given daily for a few days. The lump was perceptible still on the 16th, but had disappeared on the 18th, and he went out quite well on the 21st. In January, 1883, I ascertained that he was quite well.

CASE 3.—Frederick H., æt. 8 months, was admitted under my care on Saturday, June 18, 1881. He had been taken ill the day previously, in the morning, with sharp pain in the abdomen and with sickness, and he continued ill with retching, sickness, straining, and passage of blood and mucus per anum until the evening of admission. I saw the child at 7.30 P.M. It was restless, rather collapsed, with quick pulse; temp. 101°; the eyes a little sunken; it was often whining, and throwing its head from side to side. The abdomen was full, like that of a baby is naturally, soft, and presented an ovoid tumour, the long axis parallel with Poupart's ligament, in the left iliac region (Plate III, Case 3, fig. 1 *a*). On examination per rectum I felt a firm, round, smooth mass like the cervix uteri, round which the finger could be easily passed in all directions. There were stains of blood and mucus on the napkin. Chloroform was administered, and—bellows being at the time unattainable—a kind of force pump was used, consisting of a cylinder of about

half a pint capacity, with piston and nozzle. A gum-elastic rectum tube was attached to this and inserted in the rectum. Gentle propulsion of air gave no perceptible result. A sudden jerk filled the rectum and drove the lump upwards; after a second quantity had been forced in the mass moved up to the left flank (*b*), and took a vertical position. A syringe full was quite sufficient to fill up the gut, and always caused borborygmi and displacement of some kind. After the sixth or eighth syringeful the tumour took a position to the left of and above the umbilicus (*c*), and appeared to be smaller. After the tenth, the abdomen became quite flaccid, and only on careful examination could we detect a very small mass below and to the right of the umbilicus (*d*). The operations were continued till sixteen or seventeen syringefuls had been given; one minim of Tr. Opii was then given, and the child slept. At 10 P.M. it woke and cried again. At 11.30 the tumour was again felt in the rectum, and a vertical band was felt indistinctly through the abdominal wall, between the umbilicus and pubes (fig. 2). Mr. Golding-Bird now saw the case with me, and it was decided again to inflate, and if this should be unsuccessful then to operate. Chloroform was again given, and at 12 P.M. Mr. Golding-Bird inflated with a hand spray. The tumour disappeared as before, and so completely that it was thought inexpedient to operate, as probably entire reduction had taken place. The child was, however, much collapsed. Some brandy was administered, but death took place two hours later.

The following is Dr. Goodhart's account of the post-mortem examination made by him on Monday, June 20, thirty-six hours after death:

"On examining the abdomen there was no peritonitis, or, indeed, anything abnormal to be seen at first, but on separating the coils of the small intestine an intussusception was observed in the right loin. The ileum had gone into the cæcum, and occupied about 2 inches of the ascending colon, a part of the cæcal appendix being turned in with it, but about half still visible protruding from the neck of the sac (fig. 3). The entering part of the ileum and of the colon containing it had a livid appearance externally. The transverse and descending colon had nothing in them to indicate there had been anything amiss. I did not further examine the parts *in sitû*, thinking more might be learnt by witnessing attempts at the reduction of the intussuscepted bowel. I therefore first inflated forcibly, replacing the abdominal wall by a towel, so as in some way to

DESCRIPTION OF PLATE III, ILLUSTRATING DR. F. TAYLOR'S CASES OF INTUSSUSCEPTION, p. 68.

CASE I.—The drawing shows the position of the abdominal tumour before inflation of the bowel.

CASE II.—The drawing shows the position of the abdominal tumour: *a*, When first seen; *b*, on the following day.

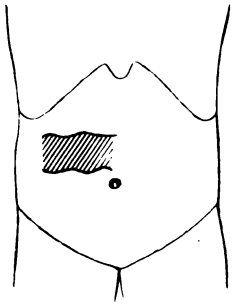
CASE III, FIG. 1.—The drawing shows the position of the abdominal tumour: *a*, Before inflation of the bowel; *b*, *c*, and *d*, during the progress of the inflation.

FIG. 2.—Before the final inflation.

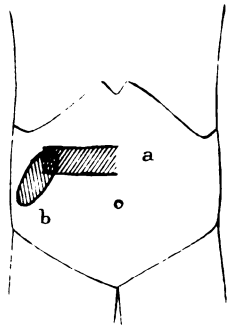
FIG. 3 shows the protrusion of the ileum into the cæcum, as found post-mortem.

FIG. 4.—Diagram showing the cæcum and ileum slit open after the reduction of intussusception by the injection of water post-mortem. *a*, Ileum; *b*, cæcum; *c*, appendix cæci; *d*, portion of cæcum still inverted, with œdema of its coats.

Case I.



Case II.



Case III.

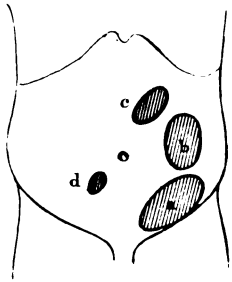


Fig. 1.

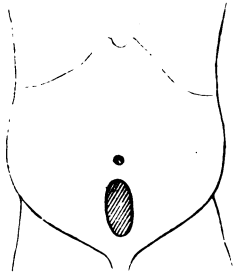


Fig. 2.

Fig. 3.

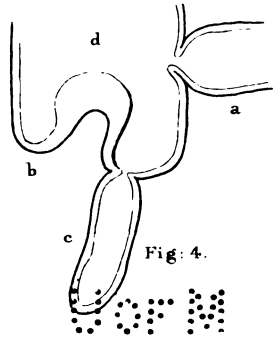


Fig. 4.

F. Taylor del

Mintern Bros. lith.

Dr F. Taylor's cases of Intussusception.

make the experiment approximate to the condition during life. This had no effect. The distension of the bowel was very little after a certain quantity had been forced in. Nor did it do any harm. I then tried forcible water pressure. I passed a tube connected with the tap some way into the anus, and turned on the water gently; this inflated the bowel and reduced the intussusception at once, but as it was done under the towel more force was used than was probably necessary. We continued to let in water until two snaps were heard following in quick succession. These proved to be due to over-distension, the peritoneum and longitudinal bands being snapped in two places. The mucous membrane remained intact. The condition of the cæcum was interesting. The intussusception was entirely reduced so far as the ileum was concerned, but a little bit of the colon was still intussuscepted, or rather inverted. When slit open this appeared as a polypoid projection in the cæcum (fig. 4 *d*), adjacent to the ileo-cæcal valve, but not incommoding it in any way. Its surface looked sloughy, and the ileo-cæcal valve was all swollen and sloughy, and the mucous membrane of the cæcum for 1½ inch upwards was intensely inflamed and covered with a thick diphtheritic-like layer of false membrane. This was adherent to the intestinal mucous membrane, which was intensely injected beneath it. The coats of the inflamed cæcum were much thickened from inflammatory products."

Dr. Goodhart further remarks:—"It might have been suggested that the still remaining pouch of inverted cæcum was the origin of the whole, but I think its presence was better explained by supposing that, as the ileum went in valve downwards, this pouch went with it, and that it had not been reduced. Its walls were so very œdematous that it could hardly have been reduced now, but as the swelling went down it would probably have reduced itself and done no harm."

Remarks.—The above cases were brought forward and are here recorded, not for the purpose of advocating the practice of inflation as the best or only means of treating intussusception, but as illustrating the bearing which the duration of symptoms has upon the line of treatment to be adopted. At the same time the first two cases are worthy the attention of the Society on account of the successful result of this method of procedure. Though everyone must allow that the graver operation of opening the abdomen, to be completely successful, must be done in good time, sufficiently so at least to anticipate

the period when the intussusception may be hopelessly glued together by inflammatory products, the cases show that the probability of this condition having supervened is not to be measured by the mere number of hours or days which have elapsed. In two of the cases in which the symptoms had lasted ten and four days respectively, the intussusceptions were reduced by inflation with comparative ease; in the third case the child died, exhausted indeed, but before any adhesion had taken place. It is at once seen that there is a striking difference in the intensity and gravity of the symptoms between the first two cases on the one hand and the third on the other. In the former the obstruction to the bowel was but slight, the abdomen was not distended, and the patient but little distressed, whereas in the other a state of exhaustion was rapidly brought on, which terminated in death within forty-eight hours of the first symptom. This is explained by the changes in the bowel, which were acute and extensive, though not resulting in peritonitis or in adhesion of the coats.

The post-mortem showed that there was sloughing of the mucous membrane and considerable infiltration of the wall of the bowel, so that the cæcum could not be returned to its normal shape. It was no doubt this thickened, inverted portion of the cæcum which was felt to be unreduced on the first occasion, and which, after each inflation, must have again been the starting-point of the re-invagination.

Apart from the question of time, as a measure of the chances of treatment, one or two other questions arise out of these cases, in reference to the advisability of attempting inflation before proceeding to operate. For instance, in this third case, is it quite certain that an operation at the same stage would have given a better chance of recovery? The success of the second inflation was apparently complete, yet the bowel was again intussuscepted after death, and the deformity, which I have regarded as the starting point of re-invagination, could not have been reduced, even with bowel in the surgeon's hands. On the other hand, there is nothing which renders it impossible, that at an earlier stage before the infiltration of the walls of the bowel, even inflation might have been completely successful. Another possibility is suggested. It is generally assumed that if an operation is performed, if the bowel be successfully withdrawn, and if no difficulties arise as a consequence of the operation, as such, then the cure would be complete. But might not the bowel again be intussuscepted, the re-invagination being determined either by such thickening

as took place in this case, or by a continuance of the condition, whatever it might be, which first produced the displacement? For, although intussusception may exist without any lump being detected, still in this case the gradually diminishing size of the mass until, in the second inflation, nothing at all could be felt, seemed to show a complete reduction; and yet the intestine again became invaginated. And in other more chronic cases, changes in the position and size of the tumour are well-known, and are explained by alterations in the degree of invagination. There is, therefore, often a tendency to re-invaginate, and it is not clear why extraction by the fingers should be more efficacious in its removal than expulsion by fluid. Whether this is a real difficulty remains to be determined by a larger experience of successful operations; and even then it would not be a reason for refusing to operate in suitable cases.

An important question in relation to inflation is the amount of injury it may do. In these three cases it appears to have been perfectly harmless, for two recovered without a bad symptom, and the third showed after death no evidence of injury to the bowel from the distending force. It is true Dr. Goodhart succeeded in rupturing the peritoneum by a sufficient water pressure, but before that time he had already reduced the intussusception. Nevertheless, instances have occurred of rupture of the bowel, and at present the method of employing this treatment is exceedingly primitive, and entirely wanting, as far as I know, in any arrangement for graduating or recording the force employed. But probably the risk can be reduced to a minimum by injecting, carefully and slowly, successive small quantities, and by gently kneading the abdomen so as to facilitate the passage of the air upwards, and thus prevent the sudden over-distension of short lengths of the colon.

In conclusion, it seems to me justifiable to attempt inflation before resorting to gastrotomy in such cases as Nos. 1 and 2, in which the degree of invagination was not great (so far as could be estimated on the assumption that it was of the usual ileo-cæcal variety) and in which the symptoms were neither violent nor acute. Even in cases where the displacement is much more considerable and its results more severe, I fail to see that much time is lost by commencing with inflation; if the tumour is not thereby reduced, gastrotomy may be resorted to at once while the patient is still under chloroform. This was the course proposed in my third case, after the recurrence of the tumour.

Two kinds of cases seem to me unsuited for inflation. The first is that in which the intussusception actually projects from the anus. This extreme displacement shows an enormous forcing power on the part of the intestine, while even after replacement by the fingers the amount of air one could get to bear upon it is necessarily small. The other is that in which the diagnosis depends solely on the symptoms, and no tumour can be felt. In such a case it may be impossible to judge of the effect of the inflation; and one may be induced to leave off without result, or go on to rupture after successfully reducing the bowel. If, in such a case, a diagnosis of intussusception is fairly certain and the strength of the patient is sufficient, the abdomen should be opened.

XVI.—*A Case of Intussusception for which Abdominal Section was performed.* By Warrington Haward.

W. J. C., a male child, æt. 17 months, was admitted into St. George's Hospital under the care of Dr. Cavafy, on September 29, 1882, with symptoms of intestinal obstruction, which had arisen suddenly five days before.

The child was said to have been quite well until September 24, when it was attacked, while at play, with sickness and abdominal pain. During the night the pain and vomiting continued, and next day an aperient powder was given, after which the bowels acted loosely. Since then there had been constant straining and vomiting, and the child had been screaming with pain.

On Sept. 26 some blood was stated to have been passed from the bowel, but no fæces came away after the 25th. It was said that purgatives had been given, and that an enema of gruel and castor oil had been administered an hour before admission. When seen by Dr. Cavafy the child was writhing in fits of abdominal pain, and making violent efforts at defecation, arching its back and resting on its elbows and toes. There was frequent vomiting of yellowish fluid without fæcal odour.

The abdominal muscles were hard and resistant, but a

tumour could be felt to the left of the umbilicus and extending into the iliac fossa. The child was well nourished, the pulse weak and rapid.

Digital examination of the rectum ascertained the presence therein of invaginated bowel, the central opening of which could be easily felt.

Dr. Cavafy diagnosed intussusception; and as the case was evidently one demanding immediate relief as the only chance of averting the impending exhaustion, it was transferred to Mr. Haward for surgical treatment.

Ether having been administered, water was carefully injected into the rectum, while the child was held inverted, but no effect was produced upon the invaginated bowel.

The abdomen was therefore opened by an incision in the middle line.

Distended small intestine at once presented and some coils escaped from the wound. The invaginated portion was easily found and drawn into view, when a very little manipulation was sufficient to release it from the ensheathing bowel; it was then seen that the intussusception had occurred at the ileo-cæcal valve.

But now the real difficulty of the operation commenced; for the intestines were so enormously distended that it was found impossible by any reasonable pressure to return them into the abdominal cavity. The peritoneal coat was greatly stretched, and it was clear that a very little manipulation would cause it to give way. The bowel was therefore punctured in several places with a fine needle, but although a good deal of gas escaped, the distension seemed but little diminished, and in spite of careful handling the peritoneal coat was observed at one spot to have ruptured. To avoid the danger of further laceration of the peritoneum, the gut was then punctured with a fine trocar and canula, and a large quantity of gas and fæculent fluid evacuated. The small opening into the bowel which resulted was carefully closed with a fine silk ligature, and the intestines were returned into the abdominal cavity. The child rallied from the depression of the operation and there was no more vomiting, but in the course of the evening it gradually sank.

Post-mortem examination.—In the cavity of the peritoneum was an ounce of blood-stained fluid, and on the parietal layer there were a few small patches of recent lymph. Some coils of small intestine were adherent by soft lymph. The cæcum and lower portion of the ileum were lying under the left lobe

of the liver, the meso-cæcum being about eight inches long. This part of the intestine was much congested, and the peritoneal coat of the termination of the ileum was lacerated and separated from the muscular coat in several places. The ligature upon the gut was quite secure, and, excepting the puncture, this part of the bowel presented no abnormal appearance. The marks of the finer punctures were not traceable. All the other organs were healthy.

Remarks.—In this instance the nature of the case was at once diagnosed, and the condition of the child was so grave that it was obvious that no delay was permissible if surgical interference was to be resorted to.

As is often the case, the invaginated part was easily felt in the rectum.

It may also be noted that, although blood was passed on the second day from the commencement of the symptoms, yet at the operation on the sixth day there was no material difficulty in reducing the intussusception, neither any sign of inflammatory adhesion nor of gangrene.

In this, as in many other cases of abdominal section for obstruction, great difficulty was caused by the extreme distension of the intestines. It was this, I think, which chiefly determined the fatal result. For when the intestines are greatly distended it is very difficult to prevent their escape from the abdominal cavity during the reduction of an intussusception or the search for the cause of obstruction, and once having escaped it may be impossible to return them without diminishing their bulk. But severe distension so paralyses the muscular tissue, that even when the bowel is punctured for the escape of gas there is no power of contraction, and thus very little diminution occurs.

Another source of danger in this condition is that very slight handling may be sufficient to cause laceration of the stretched and tense peritoneal coat, for it is this coat which first gives way in over-distension of the bowel.

For which reasons, and also on account of the exhausting effect of repeated vomiting, it seems desirable to submit cases of intussusception to early operation when simpler measures do not promptly succeed in giving relief.

XVII. *A Child with Symptoms resembling those of Myxœdema.* By C. F. Coxwell, M.A., M.B. Cantab. *Read January* 12, 1883.

THE case which I have the pleasure of exhibiting this evening appears to me one of great interest. If the patient be suffering from myxœdema, it is, I believe, the first time that malady has been reported as occurring at so early an age; while if her illness proceed from some other cause, the case still merits attention on account of its obscurity and the resemblance its symptoms present to those of the above mentioned disease.

Six years before Maud L., who is thirteen years old, was born, her father received injuries to his head in a railway collision. Epileptic fits, at first frequent but latterly occurring at long intervals, resulted from this cause. With the exception of occasional fits he is in good health, and is of sound mind. The child's mother is fairly intelligent, and has never suffered from any mental affection. A maternal uncle and a paternal aunt are insane. Of six brothers and sisters three lived only a few weeks, two died of scarlet fever, and one brother, aged nineteen, is alive and well with his father in Australia. The mother's labour was a quick one, and she was delivered without instruments. Soon after birth the child is said to have had snuffles, but careful questioning has failed to bring to light any other indication of syphilis. The mother had no miscarriages.

Maud L. had no convulsions in infancy, nor has she had a fit at any time. According to the accounts of her mother and of an uncle she was quite like other children until she had passed eight years of age, and "could read a chapter out of the Bible, or a story, as well as her mother." She went to school, wrote in a copybook, and learnt arithmetic. I have unfortunately been unable to obtain a photograph of her at this age, or a specimen of her handwriting. About five years ago she suffered a severe fright from accidentally setting fire to some paper in a grate while alone in a room. She seems to have recovered from this shock completely; but about nine months afterwards was noticed frequently to become sleepy, and even to fall asleep while eating her meals. About the same time her memory became defective, and if sent to do anything, after

starting off on her errand she would wander about in an aimless fashion. Later, her speech became thick and indistinct. Her mother states that during the last two years she has observed a change in her face, and volunteered the statement that the neighbours have remarked on the fact that it was becoming waxy looking. Her hands and feet have been very cold, while her intelligence has been becoming more and more affected, and she has suffered from generally diffused headache.

More recently her head has drooped on her chest; she has acquired a peculiar habit of constantly looking about as if in search of something; has exhibited a disinclination for exertion, and lost the power of running, and has had difficulty in deglutition.

The child was admitted into the National Hospital for the Paralysed and Epileptic under the care of Dr. Hughlings Jackson—on August 17, 1882. Her condition was then as follows:—She is a fair-haired and blue-eyed child, a trifle under the size of most girls of her age. Her height is 4 ft. 3 in., her weight 4 st. 5 lbs. What strikes one most on looking at her is the extraordinary forward droop of the head on to the chest, combined with the unusual aspect of her face. The expression is one of sadness, and to some extent of fatuity. The eyes are rather prominent and have a heavy look, and the lower lids are much fuller than is generally seen in children; the cheeks are large and firm, the nose is broad, and the usual depression over the ala nasi absent. There is a general tendency to the obliteration of the furrows and depressions of the face, the skin of which, except for a circumscribed patch of redness and injected capillaries in the centre of the cheeks, is of a transparent whiteness. The lips are not thickened, the teeth are irregular but not indicative of syphilis. The whole face is very broad.

The speech is most markedly affected, and she seldom attempts voluntary articulation. With a good deal of trouble she may be induced to repeat several letters of the alphabet, and even to read words of one syllable, but this seems to cost her a great effort. The difficulty of articulation is apparently due to weakness of lips and tongue, the lips being seen to move ineffectually before the final utterance of a word. As regards liquids the power of swallowing is not impaired, but a bolus of food is often found between the lips and teeth seven or eight minutes after mastication; there is no difficulty in getting rid of the food once it has passed the

fauces. She has considerable difficulty in protruding her tongue. When told to puff out her cheeks she makes an evident effort to do so but always fails. Her mother herself points out that the child cannot kiss her; she puts her face to her mother's but her lips are motionless. A patient with bulbar paralysis in the next bed presents the same feature.

Her general intelligence is perhaps about equal to that of an ordinary child four years of age. She is evidently pleased to see her mother on visiting days, and evinces a liking for certain of the patients in the ward. When told to do such a simple thing as to hold up her hand, shut her eyes, &c., she does as she is directed but often requires a little urging, and if told to take her playthings into an adjoining room will start as if going to do as she is bid, but when half way will throw them down and begin playing on the floor. She is extremely fond of playing with beads, and of tearing up newspapers. Her temper cannot be called placid, for she is not rarely fretful and irritable, and has occasionally long fits of screaming when reproved. She sometimes laughs and will often enter into the spirit of any simple fun; is fond of music, and will join occasionally in the chorus of a hymn. For hours and hours together she repeats again and again a little plaintive sound, like that sometimes uttered by children who are very ill. She cannot write, but can read a short sentence out of the Bible, and retains a trace of a rudimentary knowledge of arithmetic. None of her special senses seem affected, but she will not permit ophthalmoscopic examination.

Her limbs are evidently weak, and the hands are used in the same way in which one is apt to use them when they are extremely cold. She walks in a hesitating manner, looking constantly on the ground; she cannot run, apparently the legs are too weak for any but a slow mode of progression. The limbs are slender but well formed. The hands are invariably cold, and sometimes almost blue. The feet are, equally with the hands, indicative of a very feeble circulation. The condition of the trunk suggests for a moment solid œdema, but the thickness of the superficial tissues is probably due to an excess of fat. There is nothing approaching solid œdema elsewhere. The skin is fairly smooth and not very dry. No perspiration has been noticed. The palate is not highly arched. The thyroid gland seems somewhat atrophied and cannot be felt. There are no abnormal fatty tumours about the neck or other parts of the body. The thoracic and abdominal viscera appear healthy. The sensibility of the skin

seems nowhere distinctly impaired, but the patient never complains of cold. The plantar reflexes and knee phenomenon are well marked and equal on the two sides.

The pulse is 96, regular, very feeble. The rate of breathing generally about 20 per minute. The temperature in the axilla during the first six weeks after admission was constantly sub-normal, in the morning frequently falling to 95·6°, in the evening rising to 97°. Later, coincidently with an outbreak of mental excitement, it often rose in the evening to 99°.

While under observation the urine varied in specific gravity from 1010 to 1035, was acid, often rather pale, and contained no albumen or sugar. It was seldom the quantity passed in the twenty-four hours could be measured, as there was frequently loss of control over both bladder and rectum. On three successive days she passed only 6, 7½, and 8 oz. respectively. I tested the amount of urea excreted in the twenty-four hours on three occasions; it was 134, 138, and 140 grains.

It was difficult to induce her to eat much and she swallowed but a small quantity of liquid. She was often extremely restless at night, and at intervals of about a week had long fits of screaming. For about two months after admission she could walk with assistance, and would sit at the table playing quite happily with beads or marbles. After that time she became weaker, all playfulness disappeared, her power of speech, always extremely slight, nearly vanished, and her head drooped more markedly on her chest. Early in November she had very frequent attacks of violent screaming, her look became wild, and her pupils dilated; she tore up whatever she could lay hold of, and interfered with the other patients. Soon afterwards her mother removed her from the hospital. She is now in a more tranquil condition, but there can be no doubt that both mentally and bodily the child is worse than when she first came under observation. When last seen she was unable to stand alone.

Remarks.—The features in this case which appear to me to point to myxœdema are, the aspect of the patient, the low bodily temperature, the difficulty in progression, the disinclination to any form of exertion, the diminished size of the thyroid gland, the appearance of the extremities, and the nervous symptoms. The latter are very marked, and have included sleepiness, headache, loss of memory, restlessness, weakness of the tongue and certain facial muscles, great impairment of speech, and a

gradual overclouding of the intellect, leading finally to serious mental affection.

It must be remembered that the most pronounced mental disease has been recorded in myxœdema, and that Dr. Ord has had a case with marked affection of the bulb, an important point of similarity to the present case.

If the child be suffering from simple imbecility, her case is remarkable on account of the presence of so many of the symptoms of myxœdema.

The little that could be said in favour of sporadic cretinism seems to me to be quite outbalanced by the absence of so many of the most marked characteristics of that disease.

In conclusion, I would lay stress on the fact that I do not venture to make a positive diagnosis, but content myself with drawing attention to those points in the case which fit in with the supposition that it is one of myxœdema.

XVIII.—*A Case of Enormous Enlargement of the Lower Lip cured by Operation.* By J. N. C. Davies-Colley, M.C. *Read January* 12, 1883.

RICHARD B. D., æt. 36, a clerk, was admitted into Guy's Hospital under my care on August 16, 1881.

His father and one brother died of cancer, the brother at the age of 23. He was married, and had had seven children; two had died young; the other five were healthy.

Fourteen years ago he had a sore on the penis, followed by phimosis, for which the prepuce had to be slit up. Not long afterwards his tongue became sore, and his lips swelled, but he had no rash upon his skin. The lower lip soon reached half the size it presented on admission, and it remained in this condition until about twelve months ago, when it began again to grow. The glands in the neck have been at times swollen. He has been a great smoker.

On admission he was of the middle size, pallid, and rather ill nourished. The lower lip was enormously swollen, and everted so that it hung with its border on a level with the tip

of the chin, while the lower teeth were exposed to view. It was of a bright red colour, and smooth to the touch, except behind, where it was marked by longitudinal and transverse fissures about $\frac{1}{8}$ of an inch deep, which gave it a warty appearance. At the angles of the mouth there was a slight discharge, and on the mucous surface, close to each commissure, there was a crack about an inch long. Its dimensions were 3 inches from side to side, $1\frac{1}{4}$ inches from above downwards, and $\frac{7}{8}$ of an inch in thickness. There was some tenderness upon pressure. The upper lip was slightly swollen and fissured. The tongue was fissured longitudinally and transversely, so that near the middle line its surface was broken up into little squares. One inch from the tip, and rather to the right of the middle line, there was an ulcer about $\frac{1}{8}$ of an inch across, the surface of which was on a level with the whitened mucous membrane around. The rest of the mucous membrane of the tongue was fairly healthy. The gums were spongy, especially that of the lower jaw, and they had receded from the necks of the teeth, which were thickly coated with tartar. There was no enlargement of the adjacent glands.

At first he was treated with iodide of potassium, and subsequently with the perchloride of mercury. Glycerine of borax was applied to the lower lip, and afterwards an ointment composed of vaseline and iodoform. At the same time he left off smoking.

Some of the cracks and small ulcers healed, but after six weeks' treatment the lower lip remained of the same size. After an unsuccessful attempt to compress the swelling by means of ordinary and waterproof strapping, we applied two narrow pieces of wood, one upon the cutaneous, and the other upon the mucous surface, attaching their extremities by india-rubber bands so as to flatten the lip. Some improvement followed; the lip became thinner and somewhat flaccid, and its dimensions were reduced to $\frac{3}{4}$ of an inch in depth and $\frac{5}{8}$ of an inch in thickness. As, however, it still remained pendulous and very unsightly, I decided to remove the central portion.

On November 8 chloroform was administered, and I cut out a V-shaped piece, with its base at the border of the lip and about two inches broad, and with its apex downwards and reaching to a quarter of an inch below the margin of the prolabium. The hæmorrhage which ensued was readily controlled when the sides of the lip were brought together by

two wire button sutures. These were supplemented by a few superficial stitches of fine catgut. Primary union followed, and all traces of the eversion and the enormous enlargement of the lip disappeared.

Mr. Symonds, at that time our surgical registrar, examined the excised portion with the microscope, and he reports that it was composed of a great deal of fibrous tissue. There were large groups of small round cells in the deeper parts, but nowhere was there any new growth. The vessels were numerous, and there were some large spaces present, probably of a lymphatic nature.

Remarks.—I have brought this case before the Society, firstly, as a striking example of the enlargement of the lip which may arise from chronic inflammation, and secondly, on account of the successful result which followed its operative treatment. In works which treat of diseases of the lips there are many instances given of hypertrophy due to scrofula, nævoid degeneration, enlargement of the labial glands, and other causes, but I have not yet found the report of a case at all resembling that which I have just read to you. The disease would appear to have been primarily the result of syphilis, and secondarily of the constant irritation of the part by smoking. Perhaps, however, the uncertainty that his venereal complaint was followed by constitutional infection, and the very slight benefit which accrued from the use of anti-syphilitic remedies, should lead us to attribute the disease to smoking alone. The fact that his father and a brother died of cancer, would suggest the possibility of the swelling being malignant; but this theory received no support whatever from the microscopical examination. On the other hand, it is interesting to notice that although his family history shows a considerable tendency to cancer, this long-continued irritation should have produced in him so different a result.

With respect to the treatment, I was unable by internal remedies and external application to do more than remove the unhealthy character of the mucous membrane. I failed altogether to reduce the size of the lip. Some benefit was obtained from the constant pressure of the swollen tissues by pieces of wood fastened together by elastic bands. The lip became decidedly softer, but its cracked surface and pendent condition rendered it as unsightly as before. Finally, the removal of a V-shaped portion was quite successful in restoring the lip to its proper position, whilst at the same time it regained its natural size and thickness.

XIX.—*A Case of Transpatellar Excision of the Knee.* By C. Hilton Golding-Bird. *Read January* 12, 1883.

CHARLES D., æt. 13, came first to me as an out-patient at Guy's in February, 1882. He was of fairly healthy appearance, but there was a history of phthisis in his family.

In May, 1881, he was laid up in bed with swelling and pain of the right knee; he recovered sufficiently to be about again. But six months ago he fell, hurting the same knee; from that time he has not been so well, and finally presented himself at the hospital on February 13, 1882.

His condition then was:—Articular ostitis of the right knee, the end of the femur being swollen and tender, with some heat. Synovitis, with thickening of the synovial membrane, this especially evident on either side of the ligamentum patellæ. Movement limited, but not completely lost. Complained of an aching pain, but especially of the joint feeling cold, for which he has long been accustomed to toast his legs in front of the fire; the skin over the tibiæ now exhibits a well marked specimen of Ephelis ab igne.

He continued as an out-patient till the end of April, getting progressively worse; the pain, swelling, and heat alike increased, in spite of treatment, and he was therefore admitted as an in-patient on May 1, 1882. As out-patient, tonics and Scott's dressing were employed.

On admission the report is as follows:—"An intelligent boy, with dark muddy complexion, smooth skin, rather broad and flat nose, thickened upper lip, large but ill-formed front teeth, and dark eyes and hair.

"The right knee is swollen and much out of shape, but the patella can easily be defined and is moveable. No fluid in the joint to speak of, but on either side of the ligamentum patellæ there is a thick, elastic, semi-fluctuating sensation, and where there should be a depression on either side of the patella there is the same flannel-like sensation communicated on palpation.

"The end of the tibia is apparently normal, but the end of the femur is hot, enlarged, and tender. Movement is very limited, but there is no marked pain on manipulation; there

is some lateral movement and apparent grating, but no evident backward displacement of the tibia. The skin over the knee is of a dusky hue, and the superficial veins are well marked."

With the previous knowledge that I had of this case, I determined to excise the joint, and performed the operation under the spray on May 9, 1882. A transverse incision was made in the soft parts across the middle of the patella, which bone was then sawn across and, together with the skin flaps, the fragments were drawn, one upwards, the other downwards, and everted. Much pulpy material was cut away, together with the ligamenta alaria and the ligamentum mucosum, which were mere masses of this tissue. Where it encroached on to the cartilaginous surface of the patella it was scraped away, but the surface itself was not removed. The operation was then carried through in the usual way, that is, all the thick pulpy growth representing the altered synovial membrane was cut away, and the articular ends of the femur and tibia were sawn off, but in neither was the epiphysial cartilage interfered with. The cut surface of the tibia seemed healthy, that of the femur was more compact than normal, and very hard to the saw, the result of the inflammation that he had had for so long. The slight bleeding that occurred was arrested with pressure or torsion.

The sawn ends of the two long bones were now placed in apposition, and the everted soft parts together with the divided patella were restored to their places. The sawn surfaces of the patella were now united closely by two stout carbolised silk sutures, which were passed by means of an especially strong mounted needle through the substance of the bone in two places. The sutures did not reach the inner or cartilaginous surface, and were entered between the soft parts and the anterior surface of the bone so as to be entirely subcutaneous; their ends were cut short. The skin incision was then united and carbolic dressing applied. No drainage tube was used.

The limb was placed upon the splint I always employ, viz. a straight, narrow posterior splint of flat japanned iron, extending from the gluteal fold to the foot and fixed with a Sayre's bandage.

On June 6 the superficial sutures were removed, primary union having taken place throughout, with the exception of one end of the incision where a small, superficial, granulating sore remained.

On July 6 this sore had closed and so the splint was removed; union was firm, and the patella moveable and united, so that it was impossible to say where it had been cut. Nothing was seen of the two silk sutures by which it had been united. From first to last there was neither pain, suppuration, nor constitutional disturbance.

On July 12 he was discharged on crutches, wearing a stiff laced-up starch bandage round the knee; he could stand without pain. Shortening of right limb was ½ inch. He continued to wear his bandage until September 12, 1882, when he was ordered to go without any support to the leg at all: he had long discarded crutches and was using a stick.

On October 26, 1882.—With a thick-soled boot he walks well without stick or any support; since he was seen last there has been no evidence of any displacement of the bones at their line of junction. The union is firm, but if forcible attempts are made to flex, it is found to yield just enough to show that it is not yet osseous. The patella is quite movable. The nutrition of the thigh is good.

Remarks.—After excision of the knee the gain is in many ways very great to the patient if his patella can be saved, and I believe it is especially so if the patella retains its natural mobility.

Operating by means of lateral incisions has this for its object; but a complete excision is, to say the least, difficult through such limited openings. Where only the synovial membrane is "pulpy," then scraping may suffice, but where the bones are diseased and require resection, it must be hard to do this unless they are fully exposed. Langenbeck's plan of turning the bones out, to facilitate the application of the saw, through side incisions, seems to me a little severe. The plan advocated by Mr. Wright, of Pendlebury,* is a step in advance of any of these; but he would vivify the under surface of the patella after using the usual transverse incision through the ligamentum patellæ, and apply it as an osseous "splint" over the front of the line of union of the long bones, they being vivified anteriorly for the purpose. He thus gets an anterior splint which counteracts the tendency to posterior displacement of the tibia, which is sure to occur after excision, unless a stiff apparatus is worn a very long time.

The cause of this displacement is the continued action of the hamstrings, they having lost their natural opponent, the

* *Lancet*, 1880.

quadriceps extensor. Where the patella is fixed in the manner just described a stiff unyielding and permanent anterior splint is formed to prevent displacement, and apparently the quadriceps has but little share in keeping the union straight; where, however, a movable patella can be retained, the exactly normal condition of parts is restored, and the hamstrings have their natural opponent, the quadriceps. Should, therefore, the union between the long bones not, in the end, be quite firm, there would be no impediment to the patients using the limb nor a likelihood of posterior displacement, the anterior and posterior muscles now having full play. This was so in my case, for the union, though good, was not unyielding when force was applied, and I do not think that he would have been walking when he was, had his quadriceps been sacrificed.

This lad showed also a vast improvement in his mode of progression upon what is usually seen in excision cases. Two things are noticeable in these cases, one the stiff knee, and the other, that to get the stiff leg to the front in walking, it is frequently jerked forwards by an effort that adds much to the unsightliness of the gait. When the patella with its normal attachments can be retained, the rectus femoris (rising from the trunk) throws the limb forwards, without any apparent effort, and in a perfectly natural manner; while regarded as rising from the tibia, it retains its full power upon the trunk in maintaining the equilibrium, and thus much of the exaggerated effort of walking is avoided.

If the patella can be thus saved, it is not too much to hope that even a movable knee may after excision be obtained in the future.

This lad's is the only case as yet in which I have tried the transpatellar method, but in a case not suited for this mode of operation, that I lately operated on, I have found Mr. Wright's method very valuable.

XX.—*Subperiosteal Amputation at the Hip-joint: Formation of New Bone in the Stump: Moveable Stump: Patient wearing an Artificial Limb.* By James Shuter. *Read February* 9, 1883.

ON September 28th, 1881, I was called into consultation by Dr. Samuel West at the Royal Free Hospital to the case of H. B., a lad, æt. 18, who had recently come under his care. When he was first admitted he was supposed to be suffering from rheumatic fever, but from the symptoms lasting so long, *i.e.* more than two months, and the signs of inflammation being so localised in the left knee the diagnosis was almost abandoned. A little while before this also he had had a severe rigor followed by herpes labialis, delirium, and pericarditis. It was then noticed that the left hip-joint had become seriously involved. The lower end of the femur appeared to me to be thickened so I made a puncture down to the bone, but no pus was discovered. I considered it to be a case of necrosis sicca of the lower part of the femur which had given rise to septicæmia. He shortly got into a terribly emaciated condition from the intense and constant pain. Bedsores developed on any part which rested but for a short time on the waterbed, and he was evidently about to die. On October 16th I held a consultation with Dr. West and Mr. Rose when we found the patient in the last stage of exhaustion, and lying on his stomach on account of the bedsores on his back. His condition would not allow of much examination. It was my opinion that nothing short of amputation at the hip-joint would be of any service. In this I was entirely supported by Mr. Rose.

The operation was deferred until the following morning awaiting the consent of the parents. I felt that it was of the utmost importance that the patient should lose as little blood as possible; therefore, following the recommendation of my friend Mr. Rose, I decided to perform a circular amputation about the junction of the upper and middle third beyond an Esmarch's tourniquet, to saw through the bone and tie the vessels in the end of the stump, and then make a longitudinal incision on the outer side of the thigh and dissect out the remaining portion of the femur. The boy, however, pressed me to promise that he would be able to wear a wooden leg. I at once determined to do the operation subperiosteally in the

hope of getting a new formation of bone in the stump, and told him I thought he would very likely be able to wear an artificial limb. The operation was performed on October 17th under the influence of ether, and in every particular as I had previously intended. I was assisted by Mr. Rose and Mr. Davy who kindly compressed the common iliac with his lever. The periosteum was peeled off the femur up to the inter-trochanteric lines as will be seen by the specimen.

The patient made a very rapid recovery, and on December 8th he left for a Convalescent Home at Clewer. On his return I found he had a strongly moveable stump, and it had the appearance of an amputation in the upper third of the thigh. I had an artificial limb made for him by Mr. Philip Gray, of Cork Street, W., and the patient wore it for some hours nearly every day for a period of about five months. I then forbad him wearing it for a time on account of a tender sinus which opened opposite the acetabulum.

I have here the detailed notes from the admission of the patient to the time of his discharge, for which I am indebted to my dresser, Miss F. H. Prideaux. On examining the femur the cancellous tissue in the lower end was found very much reddened, excepting a grey mass in the middle which was necrosed and partially separated from the other bright red inflamed portion around. There was a quantity of organised exudation in the medullary cavity. The tissues on the surface were very much thickened and there was a very thin layer of new bone formed on the surface in several parts of the lower third. There was slight effusion into the knee-joint. The cartilage of the head of the femur was eroded and the acetabulum carious. The hip-joint contained about an ounce of pus.

Remarks.—This is, as far as I can ascertain, the first case in which there has been a subperiosteal amputation at the hip-joint successfully performed, or in which there has been new bone formed in the stump. I have also been unable to find any other case in which a patient having sustained an amputation at the hip-joint has been able to wear an artificial limb satisfactorily. When I saw the result I wrote to Professor Ollier, of Lyons, to ask if he could give me any references to similar cases, when in answer he wrote and told me that as early as the year 1859 he had devised subperiosteal operations on different parts of the body. He had performed a very large number of vivisections on the lower animals to study the functions of the periosteum, and when he found that the periosteum generated fresh bone, no matter what part it was

turned into, the results of this experience were brought to bear on the living human subject.

He planned subperiosteal disarticulations with the object of obtaining a bony or fibro-osseous support to the flaps. However, from want of proper hygienic conditions in his hospital, Professor Ollier abandoned these operations until 1871, when he began to use carbolic dressings, and although the results of disarticulation at the shoulder-joint were good, the bony deposit was never extensive enough to admit of the patient wearing an artificial limb.

He once amputated subperiosteally at the hip-joint, but unfortunately the patient did not recover from the operation. The plan he adopted was that which he had laid down in 1859, viz. a longitudinal incision on to the outer side of the femur, extending from half way between the crest of the ilium and the great trochanter down as far as the middle of the thigh. Through this wound the periosteum was stripped off and the head of the bone brought out through the wound. A circular amputation was then performed at the lower end of the longitudinal incision, tying the vessels as they were cut. In this way very little blood was lost.

I wish strongly to urge the practice of the method I adopted for it can be performed with the following advantages:

There is scarcely any loss of blood. The operation may be undertaken when a patient is *in extremis*.

Regeneration of bone occurs, and a good moveable stump results, to which an artificial limb may be applied and worn with comfort. Besides which the subperiosteal operation can be performed in nearly all cases requiring amputation at the hip-joint, as they almost always occur in inflamed hips of young people, in whom the periosteum is comparatively easy to strip off when its separation has been once commenced.

Report of the Sub-Committee on Mr. Shuter's Case of Subperiosteal Amputation of the Lower Limb at the Hip-joint.

The following questions were referred to us for consideration:

1. Whether there is any evidence that new bone has been formed from the periosteum left in the stump?

2. Whether the movements which the patient is able to execute take place between the pelvis and the spine, or in the stump itself?

3. What are the advantages which the method employed in this case affords over the operation by transfixion?

1. Having carefully examined the stump, we are of opinion that though there is a firm resisting cord of considerable size in the centre, which affords the muscles a common point of attachment, there is not sufficient evidence to enable us to state that this cord contains bone.

2. The second question presents no difficulty, for it is very evident that the movements which the patient executes with so much facility take place in the stump itself. The muscles are in a high state of nutrition, and the patient can not only powerfully flex, extend, adduct, and abduct the stump, but he can communicate all these movements to the artificial limb.

3. The method of amputation adopted in this case presents the following great advantages over the ordinary flap operation:—There is (1) a diminished risk of hæmorrhage; (2) the preservation of the muscles of such a length, and with their attachments becoming so firmly united around a strong central cord, that the result obtained approaches that of an ordinary amputation in the upper third of the thigh, in respect both to the facility of adapting an artificial limb, and the power with which the patient can move this appliance when walking.

We have examined the portion of femur removed from the stump, and find that the periosteum was stripped from the shaft as high as the trochanters, but that it was left over the linea aspera, trochanters, and neck of the bone.

The central parts of a stump from a case in which Mr. Stretton had subsequently performed amputation by the same method as that adopted in the present case, have also been submitted to us. The specimen we are informed had been obtained three months after the operation. In the median fibrous cord spicules and fragments of bone had been produced from the periosteum, but nothing that could be compared to the shaft of a femur was observed.

JOHN CROFT,
HOWARD MARSH,
R. CLEMENT LUCAS,
JAMES SHUTER.

XXI.—*Case of Nephro-Lithotomy.* By Bennett May, Birmingham. *Communicated by* Warrington Haward. *Read February* 9, 1883.

It appears that all the cases of nephro-lithotomy, including the earliest, that of Mr. Henry Morris in February, 1880, have been discussed at this Society. In soliciting the honour of adding to the number, I have sought to preserve the continuity of the Society's records of the subject, and to acknowledge my indebtedness to its published reports, whence I have derived the information which enabled me to treat this case.

In its details it closely resembles those alluded to, but shows an advance in point of size and weight of stone removed, this being three inches long and 473 grains in weight.

The patient, a coal miner, æt. 34, had his first symptoms when 16, in the form of severe and characteristic pain in the left loin. After recurring at intervals for two or three years, this completely left him but returned again twelve months ago.

During the interval, however, blood constantly appeared in the urine after exertion, and this, together with ropy sediment, leaves no doubt that the stone must have been present and growing in the organ all the time.

In November, 1881, pain returned in the left loin after a heavy day's work, and since then he could only live in comfort by avoiding every exertion. A fast walk, rough work, or a drive in a conveyance always brought on an attack of renal colic. This commenced with shivers and vomiting, was attended with intense pain in the left loin, radiating down the course of the ureter into the the testis and thigh, and after lasting six or seven hours, was followed by copious hæmaturia and frequent micturition for the next day or two. The worst attacks have happened after driving in a spring cart, and on these occasions he has been brought home quite prostrate.

There was a permanent turbidity of the urine from pus and phosphates, but the amount was subject to frequent aggravations.

The existence of stone in the kidney was diagnosed by his medical attendant, Dr. Hartill, of Willenhall, at whose instigation he came to me at the Queen's Hospital for an operation.

At this time the only symptom was a slight turbidity of

the urine. An examination of the loin and abdomen showed complete absence of any tumour or fulness or hardness, or of difference on the two sides, nor was there the least tenderness on palpation, but the act of stooping was a source of great local pain. The symptoms being nearly all in abeyance, he was got to do some fast walking up and down stairs, and this brought on one of his attacks, twenty-four hours after which he passed *per vias naturales*, a small round calculus. This appeared at first somewhat embarrassing, as it raised the question whether it might not have been the source of his troubles, but it was too small to be regarded as the growth of eighteen years, and the patient himself was strongly convinced that such was not the case. He still felt his trouble was there, and experienced the same pain on stooping which had always been a prominent symptom. He seemed in very good health but described his life as being unbearable owing to the impossibility of earning his living.

The operation was done October 20, 1882, the incision differing from the ordinary colotomy one in being higher up, so as to skirt the last rib, and more internal. It was found convenient to divide the edges of both erector spinæ and quadratus muscles. Manipulation failed to make out the stone distinctly, but acupuncture detected it at once. An incision was made in the kidney substance in a vertical direction until the wound appeared large enough to permit the extraction of the stone. This was accomplished by a scooping action of the forefingers and gentle traction on the smaller end which was first disembedded.

Bleeding of a venous character was profuse, but was readily controlled by pressure, that of the fingers during the extraction and sponges afterwards.

The parenchyma of the kidney appeared quite healthy, there was no sign of pus or thickened capsule, and the gap after removal of the stone was felt to be soft and free from fragments.

For the first twenty-four hours there was great pain and shock, and the urine drawn off by catheter, was loaded with bright-colored blood. On the following day urine began to flow through the lumbar wound, and for the first week nearly half the secretion must have come in this way, then it lessened and ceased entirely on the twentieth day. The wound which had been well drained from the outset healed rapidly and was quite sound at the end of the fifth week, never showing any tendency to form urinary fistula.

At the commencement of the second week there was a slight attack of pleurisy with effusion on the same side, probably diaphragmatic and due to contiguity of tissues. At the end of another week he had quite recovered from it.

The urine slowly returned to a nearly normal standard from which it has again recently somewhat fallen off.

Blood-staining disappeared after four or five days, but the urine remained highly ammoniacal and turbid with pus, phosphates, and debris for four or five weeks after operation. Then it gradually became neutral when perfectly fresh, and the turbidity nearly disappeared. Ten weeks after operation it was quite acid, and very faintly opalescent; it could be retained for a normal period, and he was quite free from discomfort on micturition.

Since then there has been a decided increase in the cloud perceptible in the urine, and the report furnished me on January 25, is to the effect, that it gives a small deposit of ropy mucus and triple phosphates with a few pus cells, is slightly alkaline and of sp. gr. 1020.

He has tested his recovery by numerous rides in cabs and by rail; he feels quite restored to health and fit for moderate work, but does not propose to resume employment in the pit.

Remarks.—The first point is the question of diagnosis. This was not difficult to establish with fair prospect of certainty; it rested on the prominent symptoms of pain, hæmaturia and pus in urine, before there was the confirming evidence of a small calculus.

The symptoms were sufficiently distinct from those of stone in the bladder to render sounding this region almost superfluous, though this was done by way of precaution.

Operation.—It is somewhat remarkable that when the kidney was fully exposed so large a stone should not have been readily palpated through its substance. I explain this partly by the fact that the organ fell forwards, and by its recession when touched increased the depth of the wound to something very great. This was a source of greater embarrassment than the bleeding. The stone lay vertical in the kidney with the smaller end upwards and its most projecting points anteriorly.

The stone appears to consist mainly of a crystalline phosphate of lime, but is probably of a mixed character and contains one or more nuclei of oxalate. (Plate IV, fig. 1.)

This case appears to confirm the opinion previously expressed at this Society, viz. that where no destructive pro-

DESCRIPTION OF PLATE IV.

FIG. 1.—Drawing of a calculus removed by nephro-lithotomy. Mr. Bennett May. p. 92.

FIG. 2.—Drawing of Dr. Tyson's case of leprosy. (From a photograph.) p. 164.

FIG. 3.—Drawing of Dr. Lediard's patient, the subject of spondylitis deformans, showing the habitual position of the man. (From a photograph.) p. 236.

1.

2.

3.

R Mintern, lith.

Mintern Bros imp.

cesses have been established in the kidney, a stone, even of large size and of long duration, may be judiciously removed from it.

The principal point of interest will, I think, be found to centre in the question of completeness of recovery, and whether the kidney has retained its functions as a healthy working organ. What is its present condition and its future in this respect? Does the kidney permit of complete repair after such extensive injury? I produce the patient so as to give every opportunity of our forming a correct and truthful opinion.

There was no appearance of disorganisation at the operation. Had this been otherwise it seems the proper course would have been extirpation. But from the state of the urine for long prior to operation, there must have been a considerable degree of pyelitis and occasional cystitis.

The immediate effect of operation was to aggravate this condition; for the urine, becoming ammoniacal almost as soon as secreted, deposited its phosphates abundantly, and helped to perpetuate the catarrhal condition.

There is still a slight cloud in the urine, and I do not wish to lose sight of the possibility of fouling or incrustation of the kidney at some future time if the condition remains.

The result shows that he has been wholly relieved of pain and hæmaturia, but still has a little pus in the urine. Whether this latter will ever disappear the future clinical history alone can determine.

XXII.—*A Case of Nephro-lithotomy, showing the importance of Examining from the Anterior Surface of the Kidney in this Operation.* By H. G. Howse, M.S.

THE best method of detecting a stone in the kidney in the exploratory operation on this organ is still an open question. The following case, as a contribution to its solution, will probably not be without interest.

Geo. P., æt. 57, a sailor, was admitted into Guy's Hospital on January 15, 1883. He had been in good health and able to follow his employment until rather more than six years ago, when he was one day seized with an attack of severe pain in the right loin, which affected also the right side of the abdomen, the right testicle, and the inner side of the right high. This pain was so severe as nearly to "double him

up;" it lasted twelve hours, during which time he vomited everything he took; it left him as suddenly as it came on. Next day he passed "sand" with his urine, some of it of a red colour, the rest brown or whitish. Seven months later he again experienced a similar attack, after which he again passed "sand;" the pain then lasted ten hours. For nearly four years after this he had periodical attacks about every six months, of the same character as that above described. During the last two years the pain has been continual; its periodicity has mostly disappeared, but it is worse every few hours. During this time of constant pain (two years) he has passed no sand or gravel. He has kept his bed for the last ten months, and has been so completely incapacitated from work of any kind that he was obliged to seek admission to the Croydon Workhouse Infirmary eight months ago, from whence he was transfered to my care by my friend Mr. Horsley. He has never had any stoppage of water or difficulty of micturition; on one occasion during a paroxysm of pain, when in Dover Hospital, a catheter was passed, but there was no obstruction to its passage, and no calculus was detected in the bladder. The urine has sometimes been thick and high-coloured, and occasionally dark red; but, beyond this, he does not know whether he has ever passed blood or not. There is no history of gout or venereal disease.

Condition on admission.—A well-built, strong-looking man. Lies on his back, slightly over to the left side, and keeps his right hand applied to his right loin, where he complains of continual "forcing" pain. This pain which he describes as being like a "lot of needles run into his kidney," although continual, is worse every few minutes, when he becomes evidently in very considerable agony. At night-time, in spite of narcotics, his sleep has been very much broken, and his bodily strength very much diminished thereby. The pain does not now affect the right testicle and thigh, but there is tenderness on pressure behind, limited to a spot about the size of half-a-crown, just below the last rib, and at the outer edge of the erector spinæ. From this point it radiates into the iliac and lumbar regions. Steady pressure behind relieves the pain, but it is increased on pressure over the abdomen to the right of the umbilicus. No abnormal dulness can be made out on percussion over the abdomen. Pulse 64. Temperature normal. The urine is of spec. grav. 1025; acid reaction; no deposit except some mucus; no blood or albumen; no crystals can be seen microscopically.

On January 27 chloroform was administered, and the right lumbar region carefully examined by palpation, but nothing definite was detected. A sound was also passed into the bladder, but no calculus was found, and this viscus appeared normal.

On February 6, the patient having been removed to a private room, chloroform was administered, and the operation of nephro-lithotomy performed in the following manner, my friend Mr. R. C. Lucas being present, and kindly giving his assistance. The patient having been placed on his left side, and a little on his face, a pillow was placed under the left loin and abdomen, and the thighs were flexed on the abdomen. An oblique incision was then made parallel with the last rib, and about one inch below it; it commenced over the erector spinæ muscle, (about 2 inches from the middle line), and continued outwards for about 5 inches. The usual steps of a lumbar colotomy were followed until the edge of the quadratus lumborum was exposed. The anterior layer of the lumbar fascia having been divided the kidney fat was seen protruding through the wound, and the posterior edge of the kidney could be felt with the finger. As there was not then room to examine it thoroughly, the outer fibres of the quadratus lumborum were cut through as far inwards as the erector spinæ. The finger was then passed to a certain extent over the posterior surface of the kidney, but on account of the short interval between the last rib and the crest of the ilium in this patient, examination was still very imperfect. I therefore converted the incision into a crucial one, by making a vertical cut, the upper arm extending upwards for about 1½ inches, (thus passing over the last rib), the lower passing downwards for about 2½ inches over the crest of the ilium. Some hæmorrhage occurred in making the upper incision, and two vessels were secured immediately below the rib, most probably the last intercostal vessels. The kidney could now be examined much more freely with the finger, but no calculus could be detected on the posterior surface, though the pelvis could be distinctly felt. It then became a question whether I should examine the kidney, (which was of normal size and consistency), by passing needles into its interior, or whether I should make the digital examination more complete by examining it also on its anterior surface with the finger. I preferred the latter course. On reaching the pelvis from this side a stone was almost immediately detected in it, as an obscurely hard substance which I could press upon and

slightly shift about between the finger and the muscles of the spine. The finger passed again to the posterior surface quite failed, however, in detecting it.

The next question which arose was how to remove it. As the kidney was of normal thickness and texture, it did not seem desirable to cut through its substance; on the other hand the presence of the vessels on the anterior part of the hilum rendered it unsafe to remove the stone from the surface on which it could most readily be felt. By some manipulation therefore, I freed the lower part of the kidney from its surrounding adhesions until I could feel the concavity of the ureter (where it forms the infundibulum). The stone could now be grasped between the finger and the thumb on the anterior surface of the pelvis. A blunt director was then used to scratch through the infundibulum from its inferior concavity, and the stone was partly pushed out of the aperture so made, and partly pulled out with forceps. A small quantity of urine escaped after the stone; the wound was carefully sponged out, some loose fat removed and the crucial incision brought together by ten silver sutures, a very large drainage tube having been first introduced as deeply as it would go to the posterior and inferior aspect of the kidney, as near the aperture in the pelvis as was possible. Considering the extent of the wound, the amount of blood lost was small. The whole operation was conducted under the carbolic spray, and the wound was dressed antiseptically. A morphia suppository was administered immediately afterwards, and half a grain of opium was ordered every four hours.

The calculus was nearly circular in shape, somewhat flattened, and had two or three spinous tubercular processes projecting from the surface; these most probably corresponded with the calices of the kidney. It was formed externally of oxalate of lime, and weighed when dry twenty-six grains.

There was no immediate chloroform sickness following the operation, but there was considerable pain in the abdomen. Sickness came on, however, the following day; this was attended with hiccough, which caused considerable abdominal discomfort, but there was no tenderness on pressure. The temperature in the morning was 99°, rising in the afternoon to 102°, but falling again in the evening to 99°.

It will not be necessary to follow the progress of the case day by day. The temperature averaged from 98° to 101° during his convalescence, only once again did it rise for a few hours to 102°. Very little primary union took place about the

wound; it gaped shortly after the stitches were removed, and closed finally by granulation tissue. A considerable amount of urine flowed from the wound for about ten days; after that only in comparatively small quantity. The following table will show the amounts passed from the bladder for nearly three weeks after the operation.

Date.	Ounces.	Sp. gr.	Remarks.
Feb. 7	30	—	—
„ 8	18½	1027	Cloudy.
„ 9	24	1027	Pus.
„ 10	26	1025	Albumen; faint cloud.
„ 11	30	—	—
„ 12	33	1027	„ increased cloud.
„ 13	32	1025	„ „
„ 14	38	1020	„ „
„ 15	33	1020	„ „
„ 16	38	1016	„ „
„ 17	50	1014	„ twice the amount.
„ 18	54	1015	„ „
„ 19	40	1017	„ „
„ 20	48	1015	„ rather less.
„ 21	64	1015	„ „
„ 22	75	1010	„ much less.
„ 23	64	1013	„ ⅛th.
„ 24	66	1013	„ „
„ 25	70	1013	„ „

After this, when the wound was nearly healed, on three or four different occasions, he passed urine in considerable quantity from the sinus for from twelve to thirty-six hours, the amount passed per urethram undergoing a corresponding diminution.

Although the patient did not have any severe or alarming symptoms during the whole period of his convalescence, yet the temperature never fell for any very lengthened period absolutely to normal, and he always complained of much tenesmus, tympanites, and abdominal pain. We thought for a long time that this must be due to some escape of urine from the gap in the pelvis into the cellular tissue around the kidney, thus giving rise to irritation of the peritoneum, without producing any acute inflammation. This appeared the more likely, because it was clear that the opening in the pelvis had not closed, as was shown by the occasional flow of urine from the wound. Gradually, however, as convalescence progressed, the true character of the pain manifested itself. It was noted that the bowels rarely acted of themselves, but that he was always greatly relieved after an enema, or after a dose of sharply acting purgative medicine, on which occasions he always passed a large quantity of flatus. At such times he

complained of much rectal inconvenience, and on external examination a small hæmorrhoid was detected. Ung. Gallæ c. Opio was therefore ordered for it on April 4, the kidney wound being then as nearly as possible healed. The ointment, however, caused such severe pain that it was evident something else was wrong. On the following day I examined the bowel with the speculum under chloroform, and found it most extensively ulcerated. The diseased condition extended over the lower three or four inches of the gut, and around the whole of its calibre. There was nothing in the aspect of the ulcers which suggested anything like malignant growth. They were only moderately indurated, but exceedingly painful to the touch. Their appearance, however, suggested the idea of their having existed for a very long period, and most probably they were long anterior to the operation. That they had not been complained of before was due to the greater pain of the stone obscuring the lesser pain of the bowel. When questioned on the subject afterwards, however, he admitted that he had suffered from painful defecation for a very long period, but that he thought it all part of his kidney trouble. As treatment, the hæmorrhoid was removed immediately, and nitric acid applied to part of the ulcerated surface.

This condition of rectal ulceration explained the abdominal tenesmus and tympanites from which he suffered during his convalescence. It was probably the cause, taken in conjunction with the operation, of the temperature remaining mostly rather above normal, and the consequent failure in the wound to unite primarily. After the ulcers in the rectum had been got into a healthy state the temperature fell to normal, and remained so; and the pain in defecation ceased.

The history of the case afterwards is almost entirely that of a patient suffering from rectal trouble. The ulcerated surface was so extensive that it had to be dealt with in detail, and the patient took chloroform four or five times subsequently. On each occasion a steady amendment was noted, and on the last examination with the speculum in July the ulcerated surface was found entirely healed with no undue contraction. He was not of course all this time confined to his bed. On May 17 the Registrar notes: "He has greatly improved in appearance, complains still of sharp cutting pain at the seat of cicatrix. Has entirely lost the old pain in the abdomen. Goes down into the park daily; appears well in health; appetite good." The pain in the cicatrix here referred to appears to be the ordinary cicatricial pain complained of by patients after

any very extensive operation, especially those in which the wound has closed by granulation; it is probably due to the contraction of the newly-formed scar-tissue on the filaments of sensitive nerves. He finally left the hospital for the sea-side on July 18.

Remarks.—The important feature about this case consists in the method of examining the kidney adopted at the time of the operation. The usual plan is to pass the finger to the posterior surface of the kidney and so reach and feel the pelvis. By this method, however, it was found impossible in the present case to detect any stone. Failing this, the other method in vogue is to pass needles a certain distance into the kidney substance, and see whether they strike upon a stone when they are passed in different directions into the pelvis. Although this method does not seem to have been attended with any bad results up to the present time, yet it has always seemed to me very much a matter of chance whether the needle struck upon a *small* stone. The detection of a *large* stone, on the other hand, may be generally made from the posterior surface. It has always appeared to me a less severe proceeding to pass the finger (failing the examination by the posterior surface) on to the anterior surface, and thus to explore this aspect of the pelvis. In the present case on doing so, the stone was almost immediately detected, and it was evident that the facility with which this was done was due to the kidney resting on a firm substratum of spinal muscle, chiefly psoas, which formed a firm basis of resistance on which it could be easily felt. Whereas when the kidney was explored from the posterior surface it was only resting against the yielding abdominal hollow viscera, and hence there was nothing like the firm basis of support for feeling the stone upon that there was when it was examined from the anterior surface.

The usual objection advanced up to the present time against the examination on the anterior surface was that even if the stone were detected on that aspect, the presence of the large blood-vessels of the kidney on the anterior part of the hilum would introduce an element of risk in removing it. But I am not advocating the *removal* of the stone on this aspect. It is simply brought forward as a method of *examining for* the stone, when it cannot be detected by the finger on the posterior aspect. And it seems to me that it is a safer, easier, and more certain mode of examination than the method of making numerous punctures with a needle in different directions through the kidney substance. It is not very likely that

when the stone has once been detected by this or any other means, an experienced operator will allow himself to be long baffled by the difficulty of removing it. The failures in nephro-lithotomy up to the present time do not show themselves in the difficulty of removing the stone when found, but in *failures to find the stone* at the exploratory operation. Cases are tolerably abundant, although it may be that they are unrecorded, where all the preliminary signs and symptoms of calculus in the kidney are present, but where at the exploratory operation the surgeon fails to find the stone, the wound is closed, and the patient remains in the same state as before. It is to meet the difficulties of these cases that I advocate this method of examination.

XXIII.—*On a Case of Supposed Hydrophobia treated by Chloral which Recovered.* By W. H. Broadbent, M.D., *Physician to St. Mary's Hospital. Read February* 23, 1883.

I DESIRE to submit the case to be described to the criticism of the Society before it passes into circulation as one of recovery from hydrophobia. The account of it here given is compiled from careful and copious notes taken by Mr. Jackson Gawith, resident medical officer, supplemented by personal observation.

The patient, a boy, named John Harris, æt. 12 or 13, was admitted into St. Mary's Hospital about 5 P.M. on Friday, February 25, 1876, suffering from violent convulsive attacks, which had been going on for two days. I happened to arrive in the ward at the same time, and my attention was immediately called to the case. At the first glance I took the condition to be that known as the *Status epilepticus*, but when the convulsion passed off the boy was found to be perfectly conscious and in full possession of his faculties. During the intermissions, which were very short, violent simultaneous jerkings of all the limbs and of the body were observed, most marked in the legs. In the extremities the jerks were sudden movements of extension, in the body they were opisthotonic. Frequent heavy sighing also was noticed. The paroxysms, when closely watched, were ushered in by a loud and deep

breath, the head and shoulders were thrown back, and the body was extended as in commencing opisthotonos; then most violent and rapid rotatory movements of the head and neck set in, which were accompanied by equally rapid inspiration and expiration, with laryngeal sounds not certainly like the bark of a dog, but requiring only a little imagination to suggest the resemblance. After the paroxysm, which lasted one or two minutes, the patient moaned and complained of pain in the head.

His parents, both of whom came with him to the hospital, stated that he had been perfectly well till the morning of Wednesday, the 23rd, when he did not eat his breakfast and seemed to be ailing. At about 12 o'clock on that day he was seized with the first "fit," as the paroxysms were called, and in it fell down some steps; the fits had continued up to the time of his admission, gradually becoming more severe. There was no horror of water, but the patient was unable to swallow. Fluid was offered him first in a feeder, while he was lying down, afterwards from a mug when in the sitting posture; he accepted it willingly, but the attempt to swallow, or rather the arrival of the fluid in the mouth, immediately brought on a spasm, which was more violent in the experiment of drinking in the ordinary way from an open vessel. Later it was found that contact of a cold object with the skin, placing the hand gently over the heart, the sound of water falling into a basin, or the approach of water, induced the attacks. An attempt to examine the fundus of the eye by the ophthalmoscope also provoked spasm. The countenance was anxious, the face pale, skin cold and clammy. Temperature normal, Pulse 108, small, weak, and hesitating. Respiration of deep sighing character. Slight increase of saliva noted.

The symptoms were such that the idea of hydrophobia at once suggested itself. On inquiry from the boy's parents they knew of no dog he could have been in contact with except one which was still alive and well. The boy himself, when questioned, mentioned only the same animal (he was not asked if he had been bitten in the first instance). Asked if he had played with any dog now dead, he gave the following history:—He and two other boys had found a stray dog which they detained; it snapped at several children and bit him and another boy, whose name or whereabouts he did not know, upon which, having been told it was mad, they drowned it in a pail of water. He showed first his left, then recollecting himself, the right hand as the part bitten, and at the point

indicated in the web of skin between the finger and thumb there was found a small mark as of a puncture, with an induration in the skin resembling that of a small hard chancre. It was slightly tender. The parents then recollected the circumstance, but neither they nor the boy had attached any importance to the bite, or had connected it with the existing symptoms. At this time no date could be obtained, but the occurrence had taken place since Christmas.

Nitrite of amyl was first administered by inhalation. Two doses of five drops had no effect, and at 7 P.M. chloral 20 gr., brandy 1 oz., and beef jelly 2 oz. were given as enema.

The convulsions ceased, and the boy slept, perspiring freely. At 10 P.M. he felt better, and was when awake quite sensible. Pulse 112, temp. 98·6°. The enema was repeated at this time, and again at 1 A.M. on the 26th. At 3.20 there were two or three strong spasms, whereupon the enema was again given.

At 4.30 on the 26th he had slept soundly, and had had no more convulsions. He drank some milk, the first fluid he had swallowed for thirty hours. Brandy and beef tea given by the rectum.

7.45.—Asleep since last observation. Complaining now of pain in head and abdomen. Pulse 100, temp. 98·4°. Water applied to the face brought on a violent spasm.

11.15.—Not sleeping, quiet, no convulsion.

1 P.M.—Pain in head so severe that a cold lotion was applied; this caused an immediate return of the spasms; hot water did not have the same effect, and gave great relief, so that the boy begged to have it continued. The hand placed over the heart induced spasms, Pulse 104, temp. 98·8°. No ulcers or vesicles found upon or under the tongue.

6 P.M.—Occasional slight spasms. The boy has eaten bread and butter, and drunk a little milk.

10.30.—No spasms, but at times the breathing oppressed. Pupils large. Pulse 100, temp. 98·8°. Beef tea and brandy enemata had been given every three hours during the day. The chloral now again added.

Feb. 27, 8.45 A.M.—A good night. Occasional slight spasms, but had been able to drink milk freely without distress. Took an egg, bread and butter to breakfast, and ate an orange. No spasms, even when washed, but a violent convulsion followed slight pressure with the hand over the heart.

At 11 A.M. great pain in the head. This lasted a great part of the day, but he ate his dinner and took brandy and milk freely.

At 5.30 free from pain, cheerful, playing with other boys, and wished to go home.

Feb. 28.—Apparently well. Pulse and temperature normal. Appetite good.

Feb. 29.—Slight pain in head at 6.30 A.M. which quickly passed off. At 11.30 severe headache and slight return of convulsions. Chloral 10 gr. given on which the spasms ceased, though headache continued. Had rabbit for dinner and enjoyed it. Pretty well till 9.30 P.M., when the spasms returned in a very violent form and were almost continuous, they seemed to cause intense pain in the head. Chloral 10 gr. given by mouth and brandy ʒss in milk. At 10 P.M., the spasms continuing, chloral 20 gr. given by the rectum with beef tea and brandy, and again at 10.30. At 11 P.M. the boy was dosing, but there were still spasms. He had a good night, but in the morning was very pale and had headache. Tongue dry.

March 1.—Convulsions at 10 A.M. Chloral 20 gr. given by mouth. At 2.30 the same dose with brandy and beef tea by the bowel. At 3.30 10 gr. At 9 P.M. 10 gr. Temperature 99·4°, pulse 60, large, soft, hesitating, irregular.

March 2.—Chloral 10 gr. to be taken three times a day, and brandy 4 oz. Minute vesicles seen on the under surface of the tongue near the tip.

After the formidable relapse on March 1 it was considered more prudent to give the chloral and brandy regularly, and they were continued till the 11th March, the boy being up and going about the ward.

The boy remained in hospital till April 2. The first time he went to the hospital chapel he was thrown into a state of uncontrollable excitement by the first notes of the organ and had to be carried out, and he could not bear the sound of the street organs. He was kept under observation for some time after his discharge, and had no return of convulsions, but he was much more excitable than before the attack, so that he could not return to school.

The notes of the case are placed before the Society, just as they were written six years ago. It was my opinion at the time that the attack was one of hydrophobia, and the only reason for modifying this opinion would be the recovery of the patient. Had the boy died the diagnosis would never have been questioned, but scepticism becomes a duty and a re-examination of the data on which the diagnosis was based is necessary in the face of an apparent cure.

The hypothesis of simulation, whether wilful or as the result

of nervous excitement set up by the bite of a dog, may be entirely set aside. The idea of hydrophobia had suggested itself to the parents, but even with this in their minds, they had not been able to make out any history of a bite. From the boy himself we could learn nothing until, after plying him with every other kind of question, he was asked if he had ever played with a strange dog; and when his recollection was thus prompted he was at first mistaken as to the hand which had been bitten. Imagination, therefore, had played no part in the production of the symptoms. Tetanus, again, may be excluded, as although some of the spasms produced momentary opisthotonos, the essential character of the paroxysms was clonic and not tonic. The only remaining hypothesis which need be considered is that the attacks were epileptic or allied to hystero-epilepsy in character. Against this must be set the fact that there was no loss of consciousness during the paroxysms or stupor after them, that his mental condition was free from any hysterical excitement, and his conduct and talk quite natural. Very strong evidence in favour of the attack being true hydrophobia was furnished by the state of the cicatrix of the bite, which as has been stated was indurated and tender.

Of the remedies which might possibly have had a favorable influence on the paroxysms, chloral was chosen not only because it seemed on the whole to be the most promising, but also and perhaps chiefly, that it would, we hoped, rob death from such a disease of some of its horrors.

The following cases, which have come under observation since, are related by way of appendix:

Case 2. *Hydrophobia; death.*—Alice R., æt. 13, a bright, healthy little girl, was bitten by a strange cat on the fore-finger, June 28, 1881. The wound was dressed at the hospital, but inflamed, and did not heal for some days. She was afterwards quite well till July 30, when she complained of nausea, sickness, and loss of power in the arms, had a restless night; next day had no appetite, but was thirsty, and gradually became excited. She was admitted into St. Mary's Hospital about 10 P.M. on the 31st, when she was restless, excited, and delirious, but could answer questions. She asked for water, but when it was brought said she could only take it from a spoon. Even then she hesitated, and at length opened the mouth wide and tossed the water in. She swallowed some of it, but with much difficulty, and the attempt excited

spasm of the pharynx and neck. The mouth was dry and clammy, and she frequently hawked up viscid mucus, but did not spit it out.

During the night she became rapidly worse, restless, delirious, talking incoherently, in terror when any one approached her, and she was soon quite unable to swallow. She died exhausted at 9.30 A.M. about twelve hours after her admission.

On examination five hours after death by Dr. Henderson no marked naked-eye changes were present in the meninges, cortex, and substance of the brain, and cerebellum. In the floor of the fourth ventricle were a few spots of bright red congestion. The veins of the spinal cord were everywhere full, and much clear serum escaped when the spinal dura mater was opened. In the cervical region there was hyperæmia of the cord, not elsewhere.

Sections from the convolutions, pons Varolii, and cord showed congestion of vessels and a few punctate extravasations into the perivascular sheaths, but no cellular infiltration.

CASE 3. *Pseudo-hydrophobia; death.*—H. H., æt. 26, married, was admitted into St. Mary's Hospital, October 25, 1876. He had been unfortunate in business in the north, had had much anxiety, and had taken rather to drink. Coming to London he had been engaged as a private policeman, and had had much excitement. Five years before he had been bitten by a dog on the ball of the thumb, and inflammation extending up the arm had resulted. He was said to have thought nothing of it till three days before his admission, when after giving evidence in Court he went in a state of great excitement to take a glass of spirits. As far as could be ascertained some of it got into the larynx and provoked violent spasm, upon which he began to tear at his throat and say he was mad. He was sleepless and excited from this time till admitted, and had then, at 10.30 A.M., an anxious expression of countenance and most excited manner. He dreaded the approach of liquids, and when he tried to swallow there were spasms of the muscles of the pharynx and neck, gasping for breath, much exclamation, and a look of dread and horror. He could swallow solids.

The mouth, fauces, and pharynx presented nothing abnormal. The pulse was irregular, the temperature 100·6°. Urine sp. gr. 1032, normal. These symptoms continued at the time of my visit, 1.45 P.M., but when spoken to firmly the

patient was able to control himself and to answer questions clearly and calmly. Beef tea, brandy, and chloral, 20 gr., were ordered to be administered every three hours by the rectum. During the afternoon the excitement persisted; the patient would jump out of bed saying he was in a yellow fog and could not breathe, waving his arms to keep nurses and others away, trying to get the fog out of his throat with his fingers. He said he was going to be murdered. He was seen by me several times in the course of the day and could always be quieted, but in the evening it was found necessary to remove him to an isolation ward, after which he was quieter, and was able to swallow milk. During the night he had some sleep, but was noisy at times, tried once to strangle himself, and also to get out of the window, but in the morning was better and less agitated. Pulse 80, intermittent; temp. 100°; mouth dry. He complained of oppression in breathing. He took bread and milk from time to time during the day. Varied much but was on the whole more quiet. At about 4 P.M. he was quiet and rational, but at 5 I was called to see him after lecture, and found that his wife and child had been allowed to see him, upon which he became wildly agitated, bidding them goodbye, reproaching himself for bringing trouble upon them, saying he must not kiss the child, &c. He was now utterly uncontrollable, and had to be secured in bed; he hawked up and spat out viscid mucus, clutched at bystanders, shouted, and exhibited every form of violence. It was impossible to administer the enema, and chloroform was given, and while under its partial influence he swallowed and breathed without difficulty. He again became violent and died exhausted about 10.45 P.M.

At the post-mortem examination, fifteen hours after death, the rigor mortis was very marked. The blood was dark and liquid, the lungs extremely congested with frothy mucus in the tubes, the kidneys also intensely congested. *Brain.*—Meninges injected but transparent, the veins turgid, cortical grey matter dark, white substance greatly congested, no embolism. *Spinal cord.*—Vessels engorged and substance congested.

Case 4. *Hydrophobia ?*. Under the care of Dr. W. H. Broadbent. (Reported by R. H. Scanes Spicer, B.Sc., House Physician.) T. J—, æt. 13½, errand boy, was admitted into St. Mary's Hospital at 3.30 P.M. on January 18, 1883, stated to be suffering from hydrophobia.

Previous history.—(Obtained from mother.) Had measles and scarlet fever in infancy, no other complaint, never had any fits. He reads, writes, and cyphers well, and is a sharp lad; was bitten by a puppy three months old, just five months ago. Dog flew at him and inflicted a scratch on boy's right index finger with his teeth. Wound was cauterised with nitrate of silver by a chemist within five minutes of its infliction, and on two subsequent occasions at St. Mary's Hospital. Wound is said to have healed up completely in a few days. The boy has never complained of any subjective sensation in seat of wound. The dog was killed a week afterwards because owner thought it was going mad. It never bit any one else, as far as is known. Since patient was bitten by dog he had read several accounts of hydrophobia in newspaper, and has talked on the subject to his parents.

Present illness.—On Jan. 15, started about his work in his usual good health, and returned at night, saying he had a very bad pain in his back, and went to bed. A mustard plaster gave great relief. On Jan. 16 he felt well enough to go to work, but had to give up in the middle of the day and go home to bed, and took a mixture prescribed him for a feverish cold. All that night he was restless and fidgety; and on January 17 had a well-marked cold and kept his bed. On January 18 he was unable to swallow his medicine or any liquid, could not suck an orange, and kept complaining of thirst and asking for water, which he could not drink owing to the spasms provoked directly he attempted to put any liquid in his mouth. Saliva was secreted in great excess and he foamed at the mouth. He had violent spasms suddenly starting up in bed, saying he could not breathe, and that he felt he should have a fit. Was unable to keep in the recumbent posture more than a few minutes at a time. Had delusions on several points; on the way to the hospital accused his brother of trying to choke him.

State on admission.—Soon after his admission he was seen by Dr. Broadbent who called attention to his great emotional disturbance and the marked retraction and hardness of the abdomen. At this time he could not be induced to allow a cup to be brought near his lips. Temp. 101. Dr. Broadbent reserved his opinion as to whether the case was genuine or spurious hydrophobia, and prescribed a simple enema of gruel and castor oil; after that had acted, nutrient enemata of beef jelly, and chloral hydrate (gr. xx) dissolved in brandy, to be repeated about every three hours.

Progress of case.—6 P.M.—Converses rationally about his

employment, parents, school, &c. Says he likes talking, but his memory is bad. Shivers, and complains of being very cold, though his temperature is 101·8°. Says he does not feel up to much to-night, and has a nasty taste in his mouth, which he cannot describe. His saliva is in excess, frothy, and dribbles away; sometimes he spits it out into porringer. Asks for a little milk to wash out his mouth with, but is unable to drink from basin held for him owing to convulsive spasms of muscles of head and trunk preventing him from touching basin. Asks to be allowed to have basin in his own hands, promising he will not spill any; with great difficulty and after evident determination gets spout of milk basin in his mouth, and pours a little milk into his mouth, when most violent convulsive spasms of his arms and head cause the milk to be scattered from the basin, and the choking causes great respiratory distress, none of the milk apparently being swallowed. Expresses himself afterwards as slightly relieved by washing out his mouth. Later asks for a sweet to take the nasty taste from his mouth, and receives a large acid drop, which after sucking for ten minutes and swallowing the saliva he says has taken the nasty taste away from his mouth. Has some tenderness in epigastrium, which he will not allow to be touched. Skin burning; perspiration profuse; temp. 101°. Cheeks very pale; general appearance very haggard; pulse 120, very small, thready, weak, and sudden. Urine passed freely, about 16 oz. in quantity. No vesicles under tongue. Tongue thickly furred and dry. Lips parched and scaly; heart's action very excited, sounds loud, no murmur, occasionally a beat intermits. Inspiration long drawn at times; respirations moaning, 36, but very irregular in rhythm and frequency; vesicular murmur obscured by laryngeal sound; every now and then makes a distressing moaning and whining noise, interrupted by short catchy inspirations.

7 P.M.—The enema of gruel and castor oil ordered, given without provoking spasms or any difficulty, and patient placed over bed-pan. After waiting an hour for return of enema, and as patient is very restless, a nutrient enema of beef jelly one ounce, brandy one ounce, and chloral twenty grains, is given and retained.

9 P.M.—Patient keeps talking; is very restless; buries himself in clothes in a fresh position every few minutes. Looks anxious and uncomfortable, but says he has no actual pain. Complains of feeling sometimes shivering, sometimes burning. Occasionally starts up violently in bed, crying out

saying he can't breathe; muscles of neck and throat convulsed, shown by jerking movements of head which are evidently quite involuntary; says he had sudden pain in chest, and points to upper part of sternum as its site; has a jerky way of speaking, words being interrupted by short catchy inspirations. Has paroxysms if one's hand is placed on his forehead.

10·30 P.M.—Patient has continued as in last report, but is getting more violent. Again starts up, throwing clothes off him, and crying "Oh my throat, such pain;" seizes his windpipe with both his hands, is violently convulsed, jerking himself up in air from his bed; says he can't lie down, feels cold and choking; occasionally thrusts his head against wall, screams, and clings to Sister G. Cheeks flushed; perspiration pouring from him; heart's action extremely rapid and irregular, likewise breathing. Desires to sit in chair for a little while. Is allowed to do so, and appears temporarily a little relieved. On going to bed again has another paroxysm more violent than before; says he can't swallow or breathe; thrusts his fingers in his mouth trying to pull out something; foaming at mouth continues. Says he will go mad before morning. Wishes to lie on floor. Says he will die to-morrow morning.

11 P.M.—Second injection of beef jelly, brandy, and chloral given. Patient worse than ever. Raves about the gas and fire. Insists on having both put out. Shrieks "fire," "fire," and says the place is burning. Is lucid at intervals between paroxysms, which lasts two or three minutes, and come on every ten minutes. In another paroxysm is convulsed, kicks, fights, head thrown violently about, screams "murder," says someone will murder him before morning, that he will murder the other patient in the ward, that he will cut his throat—begs attendants to cut his throat. Grinds and champs his teeth. A bandage is placed over his trunk to restrain his violence, and keep him in bed.

11.45 P.M.—Is quieter, partly through effect of enema, partly through exhaustion; does not sleep, lies in a listless state with eyes open. Movements of legs occasional.

Jan. 19.—12.30 A.M.—Still awake. Decided to repeat washing-out enema, which brought away a small amount of soft, dark-coloured fæces.

At 1.15 A.M. enema with chloral, followed at 2.45 A.M. by a hypodermic injection of chloral hydrate 20 grs. in Sp. Vin. Rec., ℥ 40. After this he slept three hours, and at 7.40 A.M.

enema with chloral repeated, after which patient got another hour's sleep.

10 A.M.—Dr. Broadbent visited patient and observed that a long forced inspiration was induced when patient was touched or body uncovered. He lay in a listless, drowsy-looking state, and was very pale. There were no spasms. Pulse 130, small and weak. Temp. 101°, but patient complains of feeling cold. Respirations more even and less catchy than last evening. Does not complain at all, and in reply to a question says he feels no pain. Abdomen not so tense as last night; but on percussion bladder is found to be distended. Urine drawn off with No. 6 catheter, quite clear at first and pale; very turbid on getting cold, due to deposit of urates, sp. gr. 1030, strongly acid, no albumen or sugar. Pupils normal. Tongue dry and furred, lips covered with dry scales.

Nutrient enema with chloral repeated at 11 A.M., 1 P.M., and 4.15 P.M.

5.20 P.M.—This afternoon had a kind of spasm, getting up in bed twice. At these times pulse and respiration were much accelerated, and patient flushed and was greatly excited. 6.15 P.M.—Patient has been sleeping again, but woke up and had another spasmodic attack. 7.30 P.M.—Another spasm, lasting three or four minutes. Enema of beef jelly and brandy repeated with chloral. 8.30 P.M.—Is whining and restless. 8.50 P.M.—Is sleeping and breathing naturally. 9 P.M.—Awakes groaning and whining. Salivation much more profuse than it was yesterday, and continuously dribbling away. It was decided to repeat washing-out enema of castor oil and soap and water which brought away little fæcal matter and remains of other enemata.

10 P.M.—Nutrient enema with chloral repeated. Patient quiet.

11.15 P.M.—A slight spasm, attempted to get up in bed. Legs jerk much at intervals. Spasmodic jerks very rapid.

12 P.M.—Temp. 101·4°.

Jan. 20.—1 A.M.—Nutrient enema with chloral repeated. Pulse 120, running and much weaker. 1.30 A.M.—Foaming at the mouth more marked. Breathing short, laboured and noisy. 2 A.M.—Temp. 101°. 4.30 A.M.—Nutrient enema repeated (without chloral). 6.30 A.M.—Spasmodic action of muscles of head and neck, breathing very laboured. 7 A.M.—Nutrient enema. Temp. 102·4°. Vomited, fluid tinged with bile. 10 A.M.—Nutrient enema. Slight occasional spasms. 10·25 A.M.—Patient died thoroughly exhausted, not asphyxiated.

Post-mortem examination was made three hours after death.

Rigor mortis was very pronounced indeed, and there was general cutaneous congestion.

Heart firmly contracted. Lungs healthy, but extremely congested. Cerebral cortex and meninges and choroid plexus intensely congested. Puncta cruenta more vascular than usual. Membranes over bulb and pons milky and extremely congested. No marked naked-eye appearance in ventricles. No excess of serum. No coagulated lymph. Abdominal organs healthy, but congested. Two living specimens of Ascaris lumbricoides found in small intestine just above ileo-cæcal valve.

Pons and medulla preserved for future microscopical examination. No trace of wound originally inflicted by dog now remains, but there is some silver staining of nail.

Had 220 grs. of Chlor. Hyd. in twenty-nine hours; ten rectal enemata, one hypodermic-injection.

I have grave doubts as to this being a case of true hydrophobia. The boy from the time of the bite had the impression that he would die of hydrophobia, dwelt upon it to his friends, and read eagerly all the accounts of cases of the kind which he could find, so that there was a strong emotional predisposition to nervous disorder, while there was an entire absence of confirmatory evidence of hydrophobic poisoning either in the history of the dog, which lived a week after it had bitten the patient, and was then only thought to be going mad, or in local induration or tenderness at the seat of the wound. It is related in order to bring before the Society my entire recent experience of real or spurious hydrophobia.

The case previously given as pseudo-hydrophobia is sufficient to show that the reflex excitability of the pons and medulla may be exalted to the point of simulating hydrophobic spasm by emotional excitement, which presumably has its seat in the higher centres, the cerebral hemispheres, and other instances are not wanting which confirm this as a possibility. If, however, the case just described be, as I am disposed to consider it, one of spurious hydrophobia, it is a more than usually striking illustration of the effects which the higher centres are capable of producing in the lower.

With regard to the lesions observed in hydrophobia, I look upon them not as the cause of the symptoms, but as the structural damage done by functional disturbance of extreme violence.

XXIV.—*Two Cases of Pseudo-hypertrophic Muscular Paralysis in Adults* (*Brothers*). By J. KINGSTON FOWLER, M.B. *Read February* 23, 1883.

CASE 1.—Henry P., æt. 44, a smith, has been under my care as an out-patient, and for a short time as an in-patient at the Middlesex Hospital since May, 1882.

Family history.—His father died of asthma at 58; his mother, æt. 60, is alive and well; one maternal aunt, married without children, died of yellow fever; four brothers and two sisters are alive and well; one brother forms the subject of Case 2. The patient has been married nineteen years, he has had ten children, six are now living and in good health, the others died in infancy, two from causes unknown to him; one of imperforate anus; one of scarlet fever.

Previous history.—When a boy he could walk, run, and jump as well as others of his age. He considers that when a young man he was remarkably strong.

He has had three attacks of acute rheumatism, the first at the age of two and a half years, the second when sixteen, the third when twenty-four. The last attack was accompanied by "putrid sorethroat," which he was told was of a diphtheritic character. With the exception of the above ailments he enjoyed good health up to the age of twenty-eight when the first symptoms of his present malady were noticed.

From the age of sixteen to twenty-four he worked as a "striker" in a smith's shop using a hammer weighing 14 lbs. with both arms. For the next fifteen years he used a hammer weighing 2½ lbs. with the right hand only.

Present attack.—When twenty-eight years of age his friends remarked on his peculiar gait, telling him that "he swaggered as though he wanted all the pavement to himself." He did not, however, himself notice anything amiss until six years later when he found that he was losing flesh, particularly about the arms and buttocks. Two years later, he, being then thirty-six, began to experience a sensation of tightness across the abdomen, not as of a cord, but as though something was dragging him backwards; this was especially marked on attempting to hurry when late for his work in the morning.

Besides a feeling of fatigue on slight exertion, another symptom noted at this time was an increasing difficulty in

getting upstairs, at first he could pull himself up by the banisters, but for the last six years he has been unable to mount the steps without assistance.

Often his legs would suddenly give way under him, and as he worked at a fire he had several narrow escapes from severe injury, as when once down he had great difficulty in rising again. He continued at his work until 1879, when he first attended the hospital, and was an in-patient for a month under Dr. Cayley. A reference to the notes taken at that time shows that his calves were then large and hard, and the pectoral and biceps muscles wasted; that he had great difficulty in rising from a sitting position, that in walking the shoulders were carried far backwards, and that the angles of the scapulæ projected. The reaction to Faradism of the levator anguli, scapulæ, rhomboidei, serratus magnus, and erector spinæ on the left side was very slight, but more marked than that of the corresponding muscles on the right side. He was considered at that time to be suffering from an unusual form of progressive muscular atrophy. After his discharge he continued to attend for the next five months for treatment by galvanism, from which he obtained some benefit.

In December, 1880, he noticed that he reeled on attempting to stand with his eyes shut, and that he was awkward in the dark.

It was not until January, 1882, that he noticed any enlargement of his muscles, although from the notes taken on his admission to hospital it is clear that the calves were enlarged in 1879. The condition of the right arm first attracted his attention, the muscle as he terms it "appeared to have slipped round to the back," an appearance due to the wasting of the biceps and enlargement of the triceps. A considerable deposit of fat took place about this time beneath the integument of the legs and abdomen.

For the last twelve months there has been some loss of sexual power and a tendency to priapism. The sphincters have never been affected. His habits have been fairly temperate. There is no history of syphilis; his wife has had two miscarriages.

Present condition.—The patient is a healthy and cheerful-looking man, with black hair and whiskers; his height is 5 ft. 4 in., weight 9 st. 3 lbs. He complains of weakness and difficulty in walking, but has no pain, and otherwise feels perfectly well.

The skin is of a brownish tint from exposure at a furnace,

and from the same cause the outer aspect of the left leg is mottled of a dark brownish-black colour.

There is a considerable amount of fat beneath the integument of the trunk and lower limbs, but not on the arms; there are scars on the nape of the neck and left leg the result of carbuncles.

The condition of his muscles is as follows:—The masseters appear to be wasted; there is no marked change in the muscles of the neck; the sterno-costal portion of each pectoralis major has almost disappeared, whilst the clavicular portion is but little affected; the deltoids except the posterior parts are large and firm, the infra spinati are also enlarged; the rhomboidei, erector spinæ, latissimus dorsi, teres major and minor, and serratus magnus, of both sides are much wasted. The folds of the axillæ have almost disappeared. In the arms the biceps muscles are advanced in atrophy, whilst the triceps are both large and firm. The muscles of the forearms are not much altered in size.

The thenar and hypo-thenar eminences are large, and the dorsal interossei stand out from the metacarpal bones. The abdomen is prominent, and the muscles of its walls enlarged and laden with fat. The glutei are rather wasted.

The thighs are large, the vastus externus on either side showing the most characteristic change. The calves are also large, but have an even contour. There is no marked talipes equinus, but the foot cannot easily be flexed beyond a right angle.

It may be said generally of the muscles of the trunk and limbs that they are weak for their size. The grasp of either hand is equal to 19 kilogrammes on the dynamometer scale.

He stands steadily with his feet slightly apart, but a very slight push is sufficient to send him down.

The head, arms, and shoulders are thrown back, the latter to such an extent that a vertical line from the scapulæ clears the sacrum by 3½ inches. In standing there is a remarkable curvature of the spine in the lumbo-sacral region with the concavity backwards, this disappears when he sits down, and is replaced by a slight curve in the opposite direction.

In attempting to walk he rises on his toes and with difficulty clears the ground for the first step; when in motion the same carriage of the body is maintained, and he sways from side to side, but places the heel fairly on the ground. The elbows are carried behind the line of the body, and the hands held with the fingers and thumb abducted. Sitting down and

rising again are accomplished with great difficulty. If placed flat upon his back he cannot turn over unaided, and is quite unable to rise; if partly assisted on to his knees he tries to climb up by seizing any piece of furniture that may be near, but usually fails to get into the erect posture.

In the shop where this man and his brother (Case 2) worked it was a common custom to make bets upon the circumference of the arm or leg, and both of them are able to give with certainty the measurements of the right arm and leg when they were young men.

I have tabulated the measurements of the arm and leg taken at the age of eighteen, in May, and again in November of last year, and in January of this year.

Arms.	Age of 18.	May, 1882.	Nov., 1882.	Jan., 1883.
Right arm, flexed, over biceps	15½	11½	10¾	11
„ extended „	—	10½	10½	10⅝
Left arm, flexed „	—	12⅜	11⅝	12⅛
„ extended „	—	12	11½	12
Right forearm (greatest circumference) ...	—	10½	—	11
Left „ „ „ ...	—	10½	—	10½
Legs.				
Right thigh 4″ from tip of great trochanter	—	17¼	19½	19½
Left „ „ „ ...	—	17	18½	19½
Right calf (greatest circumferenee) ...	16½	14⅜	14½	14½
Left „ „ „	—	14⅜	13¾	14½

It appears, therefore, that the right arm, measured over the contracted biceps, is from 4 to 4½ inches less in circumference now than at the age of eighteen, when he was in good health, and that the right calf measures 2 inches less than it then did. The measurements of the arms show a slight and those of the thighs a decided increase since May last, due I believe in great part to an increased deposit of fat beneath the integuments. Dr. A. Hughes Bennett has kindly worked out the electrical reactions for me with the following results:

Faradism. *To the nerve trunks.*—Reactions practically normal, if any change there is slightly diminished excitability.

To the muscles.—In majority of muscles reaction normal; to those enlarged and dense the responses are much diminished, but to strong currents not altogether lost.

Galvanism:

To nerve trunks.—Normal, and acts with great vigour.

To muscles.—To majority of muscles normal, but ACC is increased. To the chiefly affected muscles the contractions are much diminished in quantity and altered in quality, the ACC=CCC.

These reactions are similar to those found in children suffering from the same disease.

Dr. Ord found that the temperature of the skin over the enlarged muscles was higher than over unaffected muscles. I have carefully tested this point, but arrived at the opposite conclusion. The average of eight observations showed that the temperature over the right biceps which is extremely atrophied was 1·075° higher than over the triceps which is much enlarged.

There is nothing in the condition of his other organs worthy of note, except that the first sound of the heart at the base is replaced by a blowing murmur.

I have removed a small portion of the triceps with a harpoon, but unable to detect any decided change in the muscular fibres; the transverse striation is well marked, but there is a great excess of fatty tissue, the field being crowded with free fat and oil globules.

When this patient first came under my care he was ordered iron and strychnine which he continued to take for six weeks, subsequently he was taking cod-liver oil for some time.

Whilst in the hospital for a month, about the end of last year, the Faradic current was applied daily to the affected muscles, and he took liquor arsenicalis in 5 minim doses three times a day. Under this treatment he appeared to improve, but on leaving the hospital he lost ground again, the medicine being continued but the electrical treatment omitted owing to his inability to attend.

Case 2.—Henry F., æt. 30, a smith, married, has two children living, one of whom suffers from ophthalmia, the other from eczema. Three children have died in infancy, one from tabes mesenterica, a second from bronchitis and pneumonia, a third from marasmus. One child was born dead.

Family history.—For the family history refer to Case 1, the brother of this patient.

Previous history.—As a boy he could walk, jump, and run with ease. When fourteen he had typhus fever, and since then his health has not been so good as it was previously. He states, however, that when about twenty-one he was considered a strong man. When fourteen he began to work in a blacksmith's shop as a "striker" using a hammer weighing 12 lbs. with both hands, and continued at that work until

twenty-one. Since then he has used a small hammer weighing 2½ lbs. with the right hand only.

Three years ago, his age being then twenty-seven, his wife told him that he was beginning to go upstairs like his elder brother, he had not up to that time noticed anything peculiar about his gait, and is now hardly willing to admit that there is anything amiss with him. He confesses, however, that lately he has found a difficulty in lifting weights which some years ago he could manage fairly well, and that for the last three years his arms and legs have been wasted. He has never cared much for walking any distance, but remembers that in 1875 he walked fifteen miles in about four hours. His habits are irregular, and he is accustomed to drink a good deal. There is no history of syphilis.

Present condition.—The patient is a dark-haired, slightly-built man, his height is 5 ft. 2 in., weight 8 st. 6 lbs. He is intelligent, and says he feels perfectly well. There is no affection of sensibility, either tactile or special.

He is able to move his limbs in any direction, there is no peculiarity in his mode of standing or walking. When placed flat on his back he can turn over and assume the erect position without difficulty.

It is only in ascending a flight of steps that any movement at all characteristic of the muscular affection is apparent. He prefers to partly pull himself up by the banisters, but if not allowed to do so his shoulders are seen at each step to sway from side to side owing to the rotatory movement by which the feet are carried clear of the step above. This I think clearly points to a weak condition of the muscles of the calf and thigh. In rising from a low chair he places his hands upon his knees, straightens the legs, and throws back the shoulders with an appearance of effort.

There is a slight concavity of the spine in the lumbo-sacral region, but in the dorsal region there is a permanent curve in the opposite direction. The angles of the scapulæ project slightly. There is no increase of fat in the integuments. There is no marked change in the muscles of the neck.

The sterno-costal portions of the pectorals have almost disappeared, but the clavicular parts are of normal or slightly increased volume. The deltoids are wasted.

The supra spinati are somewhat wasted, the infra spinati enlarged; the posterior fold of the axilla has disappeared, the serrati and latissimi are also atrophied.

In each arm the biceps appears somewhat enlarged below and very firm; the triceps is decidedly enlarged and firm; the muscles of the forearm show no marked alteration in volume.

The vastus externus on either side is considerably enlarged, forming in contraction a large mass on the outer and lower aspect of the thigh. The muscles of the calf are large and hard. The knee-jerk is absent in both legs.

This patient, like his brother, is able to state the exact circumference of his right arm over the contracted biceps, and also in extension, and of both calves when standing erect from the age of twenty-one to twenty-seven, during which time they hardly varied.

	Age 21—27.	Age 30.
Right arm, in flexion	14¾ ...	11½
„ in extension	— ...	—
Left arm, in flexion	— ...	—
„ in extension	— ...	—
Left calf	14¾ ...	14
Right calf	14¾ ...	13½

Showing that the circumference of the right arm is 3¼ less and the calf 1¼ inch less than when he was in health.

The electrical reactions are as follows. Taking the right arm as an example:

Faradism to the nerve trunks gives normal reactions.

Faradism to the muscles.—The reaction is diminished in proportion to the amount of disease in the muscle, *e.g.* the biceps and extensors of the forearm show a slight diminution in excitability; the triceps an almost total loss.

Galvanism to the nerve trunks gives normal reactions.

Galvanism to the muscles.—The reaction is diminished in the same proportion as with Faradism, *e.g.* to the biceps the ACC is increased; to the triceps the ACC is greater than the CCC.

I attempted to remove a portion of this patient's vastus externus with the harpoon but failed, and he did not care to have the trial repeated.

He has not been under my care so that I have no report to make as to the result of treatment.

Remarks.—Pseudo-hypertrophic paralysis is well known as a disease of childhood, but it is extremely rare among adults, so rare in fact that its existence is doubted by some.

Dr. Gowers in a clinical lecture published in 1879 gives notes of forty-four cases of the disease, all but one occurring in children, the exception being the case of a man in whom

although the disease probably first appeared in childhood it remained stationary until he was twenty-two years of age.

Eulenberg in Ziemmsen's 'Encyclopædia' mentions five cases occurring in adults between the ages of twenty-six and thirty-four years. Cases have also been recorded by Dr. A. Hughes Bennett* and by Dr. Percy Kidd.† A case also was shown at a late meeting of this Society by Dr. Green.

Dr. Gowers states that "probably there is a very rare form of progressive muscular atrophy of adults which is not due to disease of the spinal cord," and which may be of a similar nature to the pseudo-hypertrophic paralysis of early life.

I think there can be no doubt that these are examples of the affection named by Duchenne, pseudo-hypertrophic muscular paralysis, and that the disease is the same as that occurring far more commonly in children.

The first case is a very typical example, but in the second the disease is less advanced, and had not the patients been brothers it is very possible that it might have escaped recognition. The peculiar gait in ascending a flight of steps, the mode of rising from a sitting position, the condition of the external vasti, the absence of the knee-jerk and altered electrical reactions are sufficient to establish the diagnosis.

The tendency of pseudo-hypertrophic paralysis to attack several members of the same family is well known, but so far as I have been able to ascertain these are the first cases recorded in which the disease has appeared in adults of the same family. The data which these patients are able to furnish of the size of their arms and calves before the onset of the disease show very clearly that a progressive atrophy of the muscles has preceded the enlargement which is now seen in some of them.

The measurements show that in youth these patients had large calves, but the laborious work which they were able to perform at that time I think excludes the possibility of the muscles having been at that time diseased.

I have nothing of value to add as to the pathology of this affection. Microscopical examinations of the spinal cord by various observers continue to give contradictory results. The question is ably discussed by Dr. Ross, of Manchester, in a recent paper in the British Medical Journal,‡ and the conclusion arrived at is that supported by Dr. Gowers, that

* *Brain*, vol. ii, p. 427.
† *St. Bartholomew's Hospital Reports*, vol. xvii, p. 267.
‡ Feb. 3, 1883, p. 200.

pseudo-hypertrophic paralysis is a primary muscular disease due to a perverted tendency of development inherent in the germinal tissue of the muscular system.

XXV. *Fracture of the Radius and Dislocation forward of the Ulna in front of the Wrist, in which the lower end of the latter bone was removed to effect reduction.* By Rickman J. Godlee, M.S. *Read March* 9, 1883.

THE following case appears to be worthy of the attention of the Society, first because of the rarity of the accident and the great difficulty which was experienced in effecting a reduction of the displacement; and secondly, because it is interesting to see how little the usefulness of the limb is impaired by the removal of the lower end of the ulna.

The subject of the accident was a strong young fellow, twenty years of age, who was exercising at a gymnasium on July 25, 1882, and whilst jumping a high jump he alighted on a mat, which gave way beneath him; his feet slipped forward with the mat, and he fell backwards, in doing which he put his hands behind him to save himself, and the whole weight of his body was thus suddenly thrown upon his wrists, his palms being directed downwards. He felt no very great pain, and only became aware that his forearm was broken by noticing that the radius was projecting through a minute opening on the outer side of the limb.

He was at once brought to the hospital, when it was found that the radius was fractured at the junction of the middle and lower thirds; the fracture was directed obliquely downwards and outwards, and the lower end of the upper fragment was projecting through a very small opening, from which a small amount of hæmorrhage was taking place. There was a very marked deformity of the limb, caused by the fact that the lower end of the ulna had been torn away from its attachments and was projecting beneath the skin on the front of the carpus, the flexor carpi ulnaris having slipped completely behind it. There was thus apparently considerable abduction of the hand, which was also turned very much backwards.

Attempts at reduction, both with and without an anæsthetic, proved absolutely unavailing, though they were

repeatedly tried both by the house-surgeon and myself, individually and together; and as it was clear that the lower end of the ulna was the cause of the difficulty I made an incision over it, an inch and quarter long, and at once came down upon the bare end of the bone, which lay immediately beneath the skin. I then passed a blunt hook beneath the tendon of the flexor carpi ulnaris (and no doubt the ulnar artery as well) and endeavoured by pulling them aside whilst extension and counter-extension were made to put the bones back in position, but without avail. I. then removed the styloid process only and repeated the attempt, but again without success, so the lower end of the bone was sawn off just above the level of the surface which articulates with the lesser sigmoid cavity of the radius; after doing this there was no difficulty in replacing the bones. The wound was stitched up and a drainage tube was inserted, and the usual antiseptic gauze dressings were applied, the limb being afterwards placed in two splints reaching from the knuckles to the elbow.

The wound healed without suppuration; the stitches and the drainage tube were removed on the fourth day, and the patient was allowed to leave his bed. On August 4, ten days after the accident, the limb was placed in a plaster-of-Paris casing, in which a window was subsequently cut to allow of the dressing of the minute remaining sore, and the patient left the hospital. This was removed at the end of the sixth week, and passive motion was commenced.

It will be seen now that there is a little deformity on the inner side owing to the absence of the lower end of the ulna, and that the movements of supination and extension are not quite so free as on the opposite side, but that beyond this the limb is as good as the other; in fact the patient himself considers that it is quite as useful; he is able to use it for exercise on the parallel and horizontal bars, as well as for all the ordinary employments of life, and the amount of movement appears to be improving with the daily forcible movement to which he has been told to subject it, but which till the end of November, when I impressed upon him the necessity for so doing, it appears was very imperfectly carried out.

It may be necessary to remove the lower end of the ulna not only in rare cases such as this, but also as the result of disease; and it is therefore, I hope, not uninteresting to see how little the usefulness of the limb is impaired by such a proceeding. It should be added that the triangular fibro-cartilage had been torn across during the accident.

XXVI.—*Acute Necrosis of the Right Orbital Plate of the Frontal Bone, giving rise to Thrombosis in the Frontal End of the Longitudinal Sinus, and in the Cavernous Sinus and Ophthalmic Vein.* By David R. Pearson, M.D. *Communicated by* W. H. Broadbent, M.D. *Read March* 9, 1883.

General history.—The patient was a particularly well-grown, handsome, healthy-looking girl of nine years and eight months, when attacked by her fatal illness. For some time previously, her governess had noticed that she complained of cold directly the air met her, on going out of doors, even during the later autumn of last year, when it was unseasonably warm. It was observed also that she often complained of her legs aching after her walks, and had a habit of sitting at the bottom of the stairs before attempting to mount them, but this might be accounted for by the child having grown unusually for her years.

At the very beginning of November she complained that her neck ached when she was writing or drawing. On Thursday, the 3rd of November, she went to the Aquarium on a cold foggy afternoon.

On Monday the 7th she complained of a stiff neck, and was given a warm bath and went to bed early.

On the 8th she had her breakfast in bed, but got up soon after, sitting in an easy chair most of the day because of feeling sick, with headache and sorethroat. She also spoke of her neck feeling stiff. She was sick once in the morning but was able to eat a little cold beef and potato for dinner. She passed a restless night.

On Wednesday the 9th she had breakfast in bed again, but then got up, and was on the sofa nearly the whole day on account of her neck feeling so stiff. She was noticed by the governess to be absent in mind or inattentive, but not deaf. She ate some potato and gravy for dinner, and went to bed very early again having a warm bath. She had another very restless night.

On Thursday morning, November 10, the neck and throat being worse, Dr. Pearson was sent for. He found the neck stiff, to the extent that the child took hold of her head to raise it from the pillow, but was able to walk to the window without much assistance to show the throat which was simply

relaxed. There was no discharge from the ears. The tongue was only slightly coated, and the bowels had not been opened for two days. Ordered a saline aperient and a mixture containing salicylate of soda and chlorate of potash. Pointed out the probability of the return of restlessness, and left instructions to be sent for in the evening if necessary, having in view the peculiar decubitus and apprehension in moving. Was rather restless in bed all day, continually wanting her pillow turned. Had milk and apple water during the day, and some soup about seven. Slept almost continuously from before 8 o'clock till 11.30. Was frequently waking after that and asking for a drink.

Friday, 11th.—Seemed better. Said that her throat hardly hurt her at all, and that her neck was much better. She was in this state when Dr. Pearson paid his visit in the morning. She had had bleeding from the nose soon after 11 A.M., repeated to a slight extent twice afterwards. Early in the morning she had complained about her eyes hurting her, and the right lid had got large, but the swelling went down again. At night the eyes troubled her very much, and the right lid again became puffy. She had had ten minutes snatches of sleep off and on during the afternoon, taking some soup, then some tea. An hour afterwards a little milk, and some beef-tea later in the evening. Did not now get sleep until 11 o'clock, then had about ten minutes, and short sleeps after that. Wandered between times and then had sleeps from 4 o'clock to 6.30 A.M.

Saturday, 12th, had a little tea about 7.30 A.M., and appeared better during the morning, listening to fairy tales read to her and talking about them. She had a little beef tea just before 11 o'clock. At Dr. Pearson's visit he found some sensitiveness to light. The right eyelid was somewhat puffed from effusion into it, but the neck was so much better that the child walked to the window without assistance, only holding her one hand to the side of the head. The flow of urine was free, and it was loaded with pale lithates. She dozed till about 1 o'clock, soon after had two tastes of roast fowl, after that she was very quiet up to 5 o'clock, but wandered. She took some beef tea and milk and water during that time. Then she became very restless for about two hours, throwing the legs and arms about and calling out. She was quiet again after two hours and after that very restless. At Dr. Pearson's second visit the patient was conscious and knew him, but finding an alarming change for the worse, the effusion into

the right eyelid and eyebrow having remarkably increased, he went for Dr. Broadbent and returned with him at 10.15 P.M. The grave character of the case now fully declared itself; the delirium having become very marked. Dr. Broadbent diagnosed thrombosis of the cavernous sinus as accounting for the effusion.

Bromide of potassium was added to the salicylate mixture. The temperature taken at 11.30 P.M. was 103·3°, pulse 140, respirations 38. Dr. Pearson arranged to remain the night. At first the patient was restless with delirium, drank a little water, then in fifteen minutes a little milk, and after a few minutes milk again. She then dozed for a few minutes at a time, but slept quietly from 1.15 to 2.35 A.M. Then restless and dozed again. The bromide was repeated at 4.30 A.M. Pulse then 120, temperature 101·6°. She had after this, snatches of sleep but with much delirium.

At 10.15 A.M., November 13, Dr. Broadbent returned by appointment. The effusion into the right eyebrow and eyelid remained prominent. Two leeches were applied to the right temple, which took admirably, and three grains of calomel were given, to be followed by a saline purge in the evening. The temperature at 10 A.M. was 104°. The patient felt a little sick after the leeches. At 12.55 P.M. passed about half a pint limpid urine, then slept for about fifteen minutes. Had a good drink of milk and water, and then kept on dozing and wandering. Temperature at 3.20 P.M. 103·4°. Took half a wineglassful of beef tea at 3.35. At 4.8 slept for five minutes, then tossed about. At 4.30 took very nearly a wineglass of beef tea. At 4.35 slept for almost half an hour, but uneasily towards the end. Slept again at 5.10 till 5.30, then restless till 5.45. Then dozed and took several sips of gruel between snatches of sleep. The bowels were well open twice. As the evening wore on the strength perceptibly got less, and the pulse and respirations quicker. At 12.30 A.M. pulse 108, respirations 52, temperature 105·7° in the axilla. At 2.30 A.M. temperature 105·4°; after this time the head, which had persistently lain on the right or affected side, was spontaneously changed to the left side. At 4.30 A.M. temperature 106·4°; 6.30 A.M.: pulse 150, feeble; respirations 72, temperature 107·7°. A sweetish, bread-poultice odour now exhaled from the skin, perceptible at some distance, so distinctive that Dr. Pearson thought a bread-poultice had been applied during his absence from the room.

Nov. 14.—Sir William Jenner, having been sent for, arrived with Dr. Broadbent at 7.15 A.M. The temperature was again

taken and marked 107°, evidently the high temperature of approaching death. An enema was ordered and administered, consisting of 4 ozs. beef tea, ½ oz. brandy, and 5 grs. quinine, dissolved by the help of tartaric acid. At 9.45 the temperature had risen to 107·9°. Death took place at 10.45 A.M. Immediately death supervened the bread-poultice exhalation gave place to the fetid odour associated with the discharge from carious bone.

Autopsy (3.15 P.M.).—Five hours after death the examination was made. The most noticeable point externally was the diminished tenseness of the swelling of the right eyebrow, On removing the scalp the frontal portion of the longitudinal sinus was at once seen to be overcharged, staining the periosteum through the suture to the length of 1⅛ inches and breadth of ⅛ to ¼ of an inch.

On opening the calvarium the convolutions appeared very flattened from pressure of fluid between the arachnoid and pia mater. The whole of the dura mater lining the petrous portion of the right temporal bone was smeared with thick yellowish lymph, which was also found clinging about the Pons. The parts comprised in the circle of Willis were smeared with it. The right temporo-sphenoidal lobe was protuberant to the size of a pullet's egg in comparison with the left, the enlargement being due to serous infiltration from obstruction to the venous return. The ventricles were smooth, not dilated nor affected in any way. The right optic nerve, and the fat surrounding it were stained with the same clinging yellow lymph. The periosteum of the floor of the cranium over the right orbital plate was stained with inflammation and destroyed in patches.

The vessels were much dilated over the whole brain. The right posterior sinus was much enlarged. The right cavernous sinus and the ophthalmic vein were occupied by adherent thrombi. There was a fibrinous clot of the usual post-mortem character in the right superior petrosal sinus.

Notes and Remarks by Dr. Broadbent.

When first seen by me at 10.30 P.M., November 10, the patient was lying on her back inclined to the right side, with the right side of the face buried in the pillow and supported by her hand. After sitting up, which she did several times she always returned to this position. She was restless, excited, talking, and wandering, but knew her governess and Dr.

Pearson. She complained of pain vaguely in the head, abdomen, and elsewhere, but said her neck was better, and she moved the head freely and sat up. There was no rigidity or tenderness of the sterno-mastoid muscle, nor anything abnormal about the mastoid process or ear. The condition of the eye was most remarkable: the eyelids, the upper especially, were greatly swollen, but without much discoloration; the conjunctiva was also swollen, projecting considerably beyond the level of the cornea all round, but it was pale, not red or purple, and the cornea though in a pit was bright. The eye moved freely in the orbit, there was no proptosis, and the pupils acted well, the right being rather the smaller. Ophthalmoscopic examination, which was imperfect, revealed nothing of importance. Dr. Pearson's minute and accurate notes of the further progress of the case need no supplement.

The diagnosis of thrombosis of the ophthalmic vein, probably starting in the cavernous sinus, was based chiefly on the similarity of the condition of the eyelid and conjunctiva to that seen in a previous case, but also on the difficulty of accounting for it by any other hypothesis. No definite conjecture could be made as to the cause of the thrombosis. The post-mortem examination, at which I was unable to be present, showed this to have been acute necrosis of the orbital plate, and the thrombosis would begin in the vein and extend to the cavernous sinus. There had been no pain in the brow to suggest disease in the frontal sinus, nor was there any tenderness here, and unfortunately the frontal sinus was not specially examined after death, so that it cannot be definitely stated whether, as seems probable, the necrosis had its starting-point here or not. The progress of events consequent upon the acute necrosis of the orbital plate can be followed pretty clearly.

XXVII. *Contused Wound of the Thigh and Leg in a Young Child. Gangrene of the Limb, and Death.*

By Robert William Parker. *Read March* 30, 1883.

Hannah C., æt. 14 months, was admitted into the East London Hospital for Children on June 7, 1879. She had sustained an extensive contused wound of the outer side of the left thigh and leg the day previous to her admission.

The wheel of a heavy dray had run over her, not transversely across the leg, but lengthways, tearing off the integument from the outer aspect of the limb for about two thirds of its extent (the uppermost portion of the thigh and the foot and ankle had escaped). She was not otherwise hurt. They carried her to a doctor's, who closed the wound with sutures.

On her admission, about twenty-four hours after the accident, the limb was found to be warm, and the skin of normal colour and appearance in the uninjured parts. The flap of integument which had been detached by the wheel was of a crescentric shape, its greatest axis was over the knee-joint, the front of which was entirely exposed, though not opened; the patella was exposed, but not fractured. The wound extended backwards into the popliteal space; the popliteal artery was uninjured, it could be felt beating in its normal position, nor was the popliteal vein injured as far as could be made out. The detached integument was abraded in places, and along its edges it appeared considerably bruised; the fascia of the thigh was slit open lengthwise for a short distance, and the vastus externus muscle could be seen; the calf muscles were also exposed in a similar way.

The wound was gaping between the stitches, and as it appeared very dirty I opened up the flap, and attempted to wash off the mud, this was accomplished with considerable difficulty and occupied some time, as the mud seemed ingrained into the tissues; the flap of skin was then readjusted by numerous sutures, several drainage tubes were put in, and after the wound had once more been well washed out through the tubes with warm carbolic solution the gauze dressings were applied. The carbolic spray was of course used throughout the operation. There was no bleeding. The child was under chloroform all the time; there did not seem to be any shock afterwards.

On the following day (June 8) the dressings had to be changed, they were soaked through with sanious discharge. The limb was warm; there was no œdema; the child was taking its food well, and seemed cheerful.

June 9.—A similar note to the foregoing was made at the morning visit. In the evening the child was noted as "drowsy and restless. Livid patches on the foot, with some œdema." The temp. was 103° F.

June 10.—When dressed at 9 A.M., the toes and dorsum of the foot were noticed to be mottled and blue, the surface felt cool, but not cold. The wound itself looked satisfactory; the

drainage-tubes were acting freely; the dressings were soaked with serous fluid. At 4 p.m., the blueness of the surface had increased; on pressure the colour disappeared and some time elapsed before it returned. It was now apparent that some grave disturbance of the venous circulation was taking place. Later in the evening gangrene of the toes and surface of the limb declared itself.

July 11.—The surface of the limb below the middle of the thigh was cold and gangrenous. The epidermis was raised in blisters and peeled off when touched. Above the level of the injury, the thigh was swollen and hard, and there were a few bluish mottlings. There was an indistinct line of demarcation. The child lay in a semi-comatose condition. She died the same evening.

We could only obtain permission to examine the limb, so that the condition of the internal organs is unknown. The femoral artery presented nothing abnormal, the popliteal artery contained a small bit of laminated clot. The popliteal and femoral veins were empty. The external saphena vein was divided just before its junction with the popliteal. The internal saphena vein contained a little fluid blood a few inches below its junction with the femoral. The periosteum was quite detached from the lower half of the femur on its outer side; the knee-joint was not open, it contained a little coagulated lymph. The limb was much infiltrated with putrid serum and gangrenous throughout.

The chief points I should like discussed are: (1) the treatment I adopted, and (2) the cause of the gangrene.

(1) Was it wise to try and save a limb in this condition? A very large piece of integument had been detached from the deeper structures, and the muscles themselves were also exposed in two places. It was impossible to estimate how much local injury the soft parts or how much shock the bone had sustained; the integument itself, though bruised in some parts, appeared for the most part normal; the artery was obviously uninjured, and there was nothing at first sight to suggest any injury to the veins.

The only alternative would have been amputation through the upper third of the thigh. I could hardly bring myself thus to mutilate so young a child, but in the light of subsequent events, it seems probable that in trying to save the limb, I sacrified the life of my patient.

Was it wise to open up the wound afresh and clean away the mud which was shut in beneath the integument, and if so,

would it have been better not to use the spray, which has a numbing effect on parts exposed to it? In the light of subsequent events, I am inclined to regret this practice. It is more than doubtful whether I succeeded in rendering the wound thoroughly clean, so ingrained was the mud into the tissue. Then if I did not, the antiseptic precautions were useless; and the gauze dressings and bandages may even have proved constrictive and so impeded the circulation, in however small a degree. There would have been great sloughing in any case, and the child's life and limb would have been endangered in this way. A large hot poultice laid over the wound would have favoured the blood circulation, and possibly have thus warded off the gangrene; this would probably have been the better treatment.

(2) As to the cause of the gangrene—moist gangrene, such as this, would seem to be most likely to occur in cases where the femoral vein becomes suddenly plugged, and where the blood supply to the limb goes on unchecked. In cases where the blood supply is cut off one would expect a dry gangrene. A careful examination of the vessels after death, however, showed them to be normal and free from clots or injury. I am, therefore, at a loss to account for such complete gangrene as actually occurred. Could the action of the carbolic solution, with which the wound was washed, and the spray under which it was dressed, have, in any way, had to do with its production? It is well known that children are very susceptible to its influence.

It did not occur to me to examine the urine until it was too late to procure any; it would have had to be drawn off with a catheter, as children of this age generally pass it into the bed.

It is to be regretted that a more careful post-mortem examination could not be made, for some condition of the internal organs or of the vessels in the pelvis might have been discovered, which would have explained the gangrene. Yet the child's condition, for the first three days after the accident, was such as almost to shut out internal injury, while the limitation to the parts below the seat of injury strongly suggest local conditions as the causes of the gangrene.

XXVIII.—*A Case of Tetanus with a fatal termination, treated by Chloral Hydrate and Morphia.* By W. Spencer Watson. *Read March* 30, 1883.

WILLIAM T., æt. 8, a well-nourished boy, was admitted into the Great Northern Hospital under the care of Mr. Spencer Watson on November 15, 1882.

Previous history.—Eleven days before admission the boy, while wading in a pond, got a cut over the outer part of the left instep. Four days before admission (Nov. 10) he had several fits of screaming, between which he dozed, waking with a start. Once on waking he told his mother that he had dreamed of eating and bitten his tongue. The following day the boy felt ill; he took nothing but a cup of broth and small pieces of toast. In the night he was slightly delirious, took no food, and had spasmodic movements of the limbs.

Nov. 14.—No alteration till 8 P.M. Had then a fit and bit his tongue. The handle of a knife was placed between his jaws to keep them apart during the spasms which were frequent. Took a small quantity of milk.

Nov. 15.—In the morning had a powder followed by some castor oil, after which his bowels were opened twice. At 1 P.M. was brought to the hospital and admitted.

Present condition.—On the outside of the instep of the left foot is a sloughy ulcer ($1\frac{1}{2}$ by $1\frac{1}{4}$ inches). Marked rigidity especially at the back of the neck. About once in every half hour he gives a cry and has a convulsive spasm which soon passes off. The contractions of the masseters and temporals are especially marked. The back stiffens but is not much arched. Temperature 101° F. pulse 136, bounding and dicrotous. Calomel gr. ij, followed by Hst. Sennæ co ℥ij administered, after which the bowels were opened slightly, motions liquid.

(*Diet.*—Milk 3 pints, beef tea 2 pints, wine 4 ounces.) Chloral hydrate gr. vj, every six hours. Wound poulticed. Evening temperature 99·4°, pulse 136.

Nov. 16.—Temperature 99·4°, pulse 112, not so full. Bowels open slightly in night. Spasm every five or ten minutes, lasting about one minute, affecting the back, legs, neck and face; arms not affected. Ulcer become cleaner. Evening temperature 99·4°, pulse 106; resp. 28.

Nov. 17.—Temp. 100·2°, pulse 128, resp. 28. Slept very little

in the night, not at all narcotised. Chloral increased to gr. xx, Bromide Potass. gr. iij every four hours. Spasms more frequent and of longer duration. Two slight motions. Evening temp. 100·2°, pulse 130, resp. 32. Only takes a small proportion of his nourishment.

Nov. 18.—At 1 A.M. had a long spasm lasting half an hour. Trismus and slight opisthotonos, every part of the body except the arms rigid. Profuse perspiration. Pulse fluttering and intermittent and could not be counted. Chloral and bromide discontinued. Great difficulty of breathing on account of the mechanical obstruction of the closed jaw and spasm of laryngeal muscles; face livid. One drop of Croton oil given through a gap in the teeth.

At 5 A.M. bowels opened freely, solid and liquid motions. 9.45 A.M. temp. 100·6°, pulse 184, resp. 48.

Morphia one twelfth injected hypodermically, mustard plasters applied over the spine.

10.10 A.M., after a spasm of twelve minutes' duration, by which the arms and hands were affected in addition to the rest of the body, the patient suddenly ceased breathing; the jaw was clenched, the face livid, the pupils widely dilated, and the pulse just palpable.

The mouth was forced open, the tongue drawn forward, and artificial respiration performed. After half a minute the patient gave a gasp followed by others, and soon breathed naturally again.

During the day the patient seemed slightly better, spasms not quite so frequent. Morphia injection repeated at 12 and 3 P.M. Worse again in the evening. Temp. 103·2°, pulse about 180, small and fluttering.

At 8.30 P.M. the house surgeon and nurse whilst engaged in another part of the ward noticed that the boy had ceased breathing; they immediately drew the tongue forward and performed artificial respiration &c., but the patient was pulseless and their efforts were unavailing.

Post-mortem examination forty hours after death. Rigor mortis marked. Ulcer on outside of foot clean. No other marks of external injury.

The membranes of the brain and cord were intensely congested, the meningo-rachidian veins were distended with blood. The substance of the brain and spinal cord appeared healthy. A portion of the nerve supplying the injured part (the peroneal) was excised and was healthy in appearance. Other organs nothing abnormal discovered.

The above particulars were furnished by Mr. J. N. Cook, house surgeon to the hospital.

Mr. Brewster, the junior resident medical officer, subsequently prepared sections of the cord and of the peroneal nerve.

The sections of the cord were for the most part perfectly normal. I failed to discover anything at all resembling the *translucent homogeneous exudation* described by Lockhart Clarke and Dr. Dickinson. Nor did I find any infiltration of the nerve substance with leucocytes as described by Dr. Ross. No hæmorrhages were found, nor were there any permanent dilatations or engorgements of the blood-vessels in the substance of the cord as in Dr. Dickinson's case. The vessels on the surface were, however, visibly engorged. Here and there the sections presented vacant spaces around the vessels and the multipolar ganglion cells. The nerve-tissue appeared to have shrunk from these structures, and my colleagues and myself regarded this as due to the mode of preparation.

In one part of the cord only, viz. the dorsal, we discovered some *homogeneous colloid bodies* embedded in the grey matter, and resembling the *colloid bodies* described by Dr. Ross.

The sections of the peroneal nerve showed distinctly abnormal changes. In the place of the nerve filaments were seen only corpuscular bodies, probably disintegrated nerve-tissue or myeline; while the sheath and neuroglia were distinctly thickened as if by inflammation. In the opinion of one competent microscopist, however, the appearances of the nerve were partly due to post-mortem changes. There seems, however little doubt that the nerve-sheath (epineurium and perineurium) was distinctly thickened and that this thickening was of inflammatory origin.

Some importance (in reference to the primary cause of tetanus) is attached to the condition of the nerve leading from the injured part. Probably in all cases of tetanus of traumatic origin, some changes must take place in it, but it by no means follows that these are recognisable by the microscope, nor that if so recognisable they are the essential to the conduction of the morbid process to the cord. It may be as Dr. Dickinson has suggested that the lesions in the cord are due to vascular engorgement, this being primarily excited through the irritation conveyed by the nerve from the injured part. In a remarkable case reported by Dr. Dickinson (*Medico-Chirurgical Society's Transactions*, vol. xxi, p. 265) though the lesions in the cord were very marked, the sections of the divided nerve

presented no appearances of departure from the natural state. So that in that instance at least it would appear that the lesions in the cord were not due to the extension of irritation directly along the nerve, but rather to indirect influence through the blood-vessels. On the other hand, several cases have been reported by Dr. Clifford Allbutt (*Path. Trans.* vol. xxii; p. 27 *et seq.*) in which the nerves leading from the injured part were so markedly affected that the lesions were visible to the naked eye, and their condition induced Dr. Allbutt to strongly urge the employment of *neurotomy as a remedy* for tetanus.

I have brought the specimens of the nerve with the hope of eliciting some opinion as to their being morbid or not. At the same time I must confess that whether they are so or not, the clinical aspect of the question would not be very materially affected by the verdict given. It is obvious that the morbific influence may be conveyed either by the nerve or some other channel, and that tetanic disease of the cord may be set up without any change taking place in the nerve; and we are therefore still confronted with the same difficult question: is neurotomy likely to be of avail, and if so at what stage or stages of the disease? I am inclined to think it should be tried more often than it has been hitherto. Possibly in an early stage of the above case it might have been good practice to have adopted it or perhaps amputation. I must confess, however, that I was so profoundly impressed with the value of chloral that I rather ignored the necessity of local treatment. In a very severe case of traumatic tetanus treated by chloral in large and repeated doses, recovery took place, though it had been regarded by competent observers as past hope. In less severe cases I have seen equally good results from the use of chloral. In the case just related the treatment was commenced at a late stage of the disease and failed perhaps on that account.

The report of the case has I fear only a sort of negative value. It emphasises what we already know too well, viz. that *the* remedy for tetanus or *the remedial method* of treating it has yet to be discovered, and that a rational theory of its causation is still wanting.

XXIX.—*Tetanus following Laceration of the Toes and lasting forty-two days; Symes' amputation; recovery.*

By Howard Marsh. *Read March* 30, 1883.

Alfred M., æt. 8, was knocked down, on September 9, 1882, by a tram car, which passed over his left foot, severely crushing the three inner toes. On September 12 he was admitted into St. Bartholomew's Hospital with the toes gangrenous, and the adjacent parts of the foot in a state of dusky inflammation. In the next few days the separation of the sloughs proceeded favorably, the parts being dressed at first with charcoal poultice and then with carbolic oil. The child, however, complained a great deal of pain in the toes and foot.

On September 23, fourteen days after the injury, he refused his dinner, saying that he could not open his mouth, and, on seeing him shortly afterwards, Mr. Audrey Buller, the house surgeon, found that trismus was well marked and that the abdominal muscles were rigid. He was ordered an enema of ten grains of chloral and five drops of tincture of opium, and later, a dose of castor oil. At 5.40 he was awoke by a spasm, accompanied by well-marked opisthotonos. At six, and again at eleven o'clock, an enema of ten grains of chloral and ten of bromide of potassium was given. He slept for two or three hours in the night, but he had several spasms.

On 24th he complained frequently of pains in the toes, and cried out when the dressings were changed. Spasms were frequent, and it was evident that the severity of the tetanus was hourly increasing. He took milk, beef tea, and wine freely, but he was already showing signs of exhaustion. The enemata of bromide and chloral were continued, but failed to check the recurrence of spasms.

At 4.45 P.M. I performed Symes' amputation. Just before the operation he had a prolonged and very sharp spasm which very nearly proved fatal.

Between 5 and 6 spasms were frequent and violent—there were about ten in this hour. But then they became less urgent, and he had twenty minutes sleep after a hypodermic injection of morphia given at 11 P.M.

From this date I may present a general summary of the case. 1. As to the course of the tetanus. 2. The healing of the wound. 3. The use of narcotics. The tetanus persisted

for forty two days—from September 23 to November 4—taking an acute form from its commencement. Within twenty-four hours the affection had become so severe, and was accompanied by such frequent and violent spasms, that it seemed very unlikely the child would live through the night. The removal of the foot had a markedly beneficial result, and the frequency and intensity of the spasms soon diminished. From this date to October 27, however, the disease remained severe. Rigidity of the abdominal muscles was well marked, the facial muscles were so contracted that the features were distorted almost beyond recognition, and the legs and arms were often rigid, and the seat of spasms which made him scream out with pain. For many days he was in a condition of extreme exhaustion and feebleness, and apparently almost dying. He grew pale and sallow, his skin was wrinkled and drawn, and he was very emaciated. The pulse was often so feeble that it was difficult to count it, but it was generally between 130 and 180. Respirations varied from 20 to 42 in a minute, and the temperature from normal to 101·4°, above which it never rose. Increase in the tetanus was not followed by any rise of temperature. Perspiration was profuse, especially when spasms were frequent. From the commencement of the disease on September 23 to October 22, he took no solid food. During this period his diet consisted of milk, eggs, strong broth, and beef tea, and sometimes an ounce or an ounce and a half of brandy in the twenty-four hours. Sometimes he refused food saying it stopped his breath, and would swallow nothing for eight or ten hours. He was then fed with nutritive enemata. Though greatly emaciated, and so feeble that he could scarcely move his arms, he recovered strength rapidly as soon as the tetanus ceased.

2. The wound healed somewhat slowly but without complication. It was all closed, except a small sinus, on October 24—that is, just a month after the operation. Seeing how wasted and feeble the boy was the healing went on much more rapidly than might have been anticipated. The presence of acute tetanus seemed to exercise no unfavorable influence on its course.

3. As to the use of narcotics. Between September 24, the day on which the amputation was performed, and October 29, enemata of chloral and bromide of potassium—from ten to twenty grains of the former and from ten to thirty grains of the latter—were occasionally given, but their good effect was doubtful. The hypodermic injection of morphia, however, at once checked the spasms, and generally procured sleep.

On many occasions as many as five or even six injections were given in the twenty four hours. They were called for by the frequency and severity of the spasms, and by the child's suffering and restlessness, which were sometimes extreme. The amount injected varied from $\frac{1}{12}$ to $\frac{5}{12}$ of a grain, the latter being the dose given almost all through October. The average daily amount used was $1\frac{5}{12}$ grain. The largest quantity given in any period of twenty-four hours was $2\frac{1}{12}$ grains. This total was reached on October 5 and 10, and daily from 18th to 24th, except on the 22nd, when only $1\frac{9}{12}$ were administered.

Remarks.—One of the numerous points respecting tetanus on which our present knowledge is deficient is, whether like the exanthemata it has an approximately uniform duration, or whether like pyæmia its range as to time varies very widely with the circumstances under which it occurs. The majority of cases throw no light on this question, for death takes place in the first few days and puts an end not only to the sufferings of the patient, but to the further progress of the disease. We know little of the nature of tetanus, and cannot say whether morphia has any curative action upon it. If it has such an influence the present may be read as an example in which, though the struggle was a long one, the drug at last beat the disease. Morphia has, however, so often failed that it was probably only useful in checking the spasms and procuring rest, and so enabling the patient to live on from day to day till the disease reached its spontaneous end. In this view the case seems important, as showing how long a traumatic tetanus may persist when it is not cut short by the death of the patient. As the means of averting death increase we may learn whether the period reached in this instance was exceptional, or whether it was in fact an approximation to the natural period of the disease when, by the survival of the patient, it is able to run its full course. That it was exceptional seems the more probable view.

2. As to amputation. Many authorities are opposed to this step because, although a wound has been its starting point, tetanus itself is not a local disease, but one involving the central organs of the nervous system, and not therefore to be eradicated by the removal of the injured part; and also because amputation constitutes in itself an additional and considerable source of danger; besides, it is urged, and no doubt with much force, that amputation has very often proved of no avail. Too much stress, however, must not be laid on this last observa-

tion, for our information as to the results of amputation for tetanus is derived in great part from the annals of military surgery at a time when the circumstances under which the patient was placed conspired alike to raise the disease to its severest form, and to reduce the chance of recovery to the lowest point. At the present day when the conditions surrounding a patient are much more favorable, and when the treatment of wounds has so much improved, amputation in selected cases, and performed at once, seems to deserve a further trial. Certainly it is the surest means of fulfilling one of the most important indications for treatment—the removal of all sources of peripheral irritation. And although amputation has often failed, let us remember that it has sometimes been followed by the speedy subsidence of the tetanus, and that an examination of the parts removed has furnished a seemingly ample justification for the operation; the chief nerves of a limb having been found either extensively crushed, or violently stretched by displaced bone, or transfixed by splinters either of bone or of some foreign body driven into the wound. In the present instance the crushed and gangrenous toes, in which the child had complained of much pain, were an obvious source of peripheral irritation. Some may be of opinion that instead of amputation it would have been better to divide the nerves higher in the limb. This proceeding was not adopted, however, because I could neither tell which of the several nerves distributed to this part of the foot I ought to select, nor believe that this expedient would remove peripheral irritation as completely as amputation would. And there was this further material point, the amputation required was not a large operation, and it involved only the loss of a foot a part of which was already gangrenous; the stump formed, moreover, would be a convenient one for future use, should the patient recover. The question of amputation for tetanus must always doubtless to some extent turn on the magnitude of the operation required, and therefore the intrinsic danger of the proceeding itself, and the loss it would involve. It may be right to amputate a hand or a foot when it would be wrong to subject the patient not only to the loss but also to the considerable risk involved in amputation of the thigh, or at the shoulder-joint.

In respect to the use of morphia I will only say that the drug never failed to check the spasms and to quiet the child; and that, although it was injected in such a large amount as nearly half a grain at a time, it produced no unfavorable result.

XXX.—*Removal by Internal Operation of a Pin from the Larynx of a Boy, æt.* 13, *in which it had been impacted thirteen months, and had caused fixation of the left crico-arytenoid articulation.* By Felix Semon, M.D. *Read April* 13, 1883.

A. B., æt. 13, was admitted on the 23rd of October, 1882, into Albert Ward, St. Thomas's Hospital, under Mr. Sidney Jones, with the following history:

He had always enjoyed good health, and in particular never suffered from his throat. On the 25th of November, 1881, he had a pin, head foremost, between his teeth, when he laughed, and the pin slipped to the back of his tongue. In trying to get it out he pushed it out of sight with his finger. It pricked him now and then during the day of the occurrence, but he distinctly denies having had on that day any violent pain, nor does he remember that he coughed very violently immediately after the accident. A doctor examined him the same night and felt the pin, but did not attempt to remove it. After the first day he felt nothing for a fortnight, when he began to suffer from sorethroat. He localised the pain distinctly to the left side of the throat about the height of the cricoid plate. The pain prevented him from swallowing solids, and the sensation was that of severe pricking. This lasted fourteen days, when he quite recovered from pain. Since then, however, he has had several, on the whole about five attacks of various length of pain, always in the same spot, difficulty in swallowing solids, and very distressing spasmodic cough, with longer or shorter intervals of complete freedom from these symptoms. Lately he has suffered on two occasions from dyspnœa, the first time at intervals during one day, the second time just before admission for two days.

On October the 31st Mr. Jones examined him under chloroform. He distinctly felt the point of a pin through the mucous membrane of the lower part of the pharynx on the left side. A few days afterwards I was requested to make a laryngoscopic examination. This resulted in the discovery that the pin was not, as had been previously supposed, impacted in the œsophagus, but for by far the greater part of its length in the larynx, and that its point only projected into the gullet.

The metallic point vividly contrasting in colour with the

DESCRIPTION OF PLATE V.

FIGS. 1 and 2.—Illustrating Dr. Sémon's case of removal, by internal operation, of a pin from the larynx of a boy æt. 13, in which it had been impacted for thirteen months, and had caused fixation of the left crico-arytænoid articulation. p. 139.

FIG. 1.—Represents the laryngoscopic image before the operation, showing the point of the pin projecting from the left ary-epiglottic fold close to the base of the left arytænoid cartilage. The latter, as well as the left border of the epiglottis and the left aryepiglottic fold, considerably thickened. In the neighbourhood of the foreign body there is superficial ulceration. Interior of the larynx not visible.

FIG. 2.—Laryngoscopic image (during inspiration) four days after the operation, showing the immobility of the much thickened left arytænoid cartilage and left vocal cord, which always remains in the middle line. Noticeable thickening of left border of epiglottis and left aryepiglottic fold, and patches of superficial ulceration in the neighbourhood of the former place of impaction of the foreign body.

FIG. 3.—Drawing of Mr. Lunn's case of myxœdema in a male. (From a photograph.) p. 264.

3.

1.

2.

Not to

surrounding bright red mucous membrane, was seen to project about one eighth of an inch out of the arytenoid end of the left ary-epiglottic ligament, in close proximity to the base of the left arytenoid cartilage. (Plate V, fig. 1.) The direction of the foreign body was from without and above, downwards and inwards. All the parts in its immediate neighbourhood, notably the left border of the epiglottis, the left ary-epiglottic ligament, and the left arytenoid cartilage, had undergone a very considerable thickening, and there was superficial ulceration and yellowish-grey discoloration on the internal surface of the left free border of the epiglottis, of the ary-epiglottic fold, and over that part of the œsophageal mucous membrane which would, during the act of deglutition, &c., come into contact with the point of the pin.

The left arytenoid cartilage was seen not to move with respiration and phonation; the interior of the larynx could never be seen properly, because the epiglottis in spite of the usual manœuvres to make it rise, remained obstinately bound down. The voice was perfectly normal, and there was no dyspnœa.

I communicated the result of my examination to Mr. Jones and requested him at the same time to permit me to make an attempt at removal *per vias naturales*. Mr. Jones kindly yielded to my desire, and I have much pleasure in returning him my best thanks for his liberality. As the excessive size of the boy's tonsils rendered even the examination difficult, and was likely to frustrate any internal operation, I removed them both on November the 28th.

When the boy had quite recovered from this preliminary operation, my clinical clerk, Mr. Walter Hull, introduced a laryngeal probe several times daily in order to accustom the rather fidgety little patient to the co-operation, which is, in these cases, indispensable on the part of the patient. A very few days after the commencement of this practice the desired effect was obtained, and on the 22nd of December I succeeded in seizing under the guidance of the laryngeal mirror the pin with a pair of ordinary lateral serrated laryngeal forceps. In consequence, however, of the very tight impaction of the foreign body, the forceps slipped when an attempt at extraction was made, with an audible noise, and wishing to avoid all undue irritation I did not repeat the attempt. On the 26th of December, however, when I renewed my endeavours, I succeeded again in seizing it, and this time pulled it out, the instrument being withdrawn in the direction indicated by the

long axis of the foreign body. Very considerable force had to be used in the act of extraction, and I was surprised that the operation was almost painless and bloodless.

It was remarkable that immediately after the operation, on attempting phonation, the epiglottis, which had up to that time always, as I have said before, remained pendent, became erect to such a degree that it permitted of the inspection of the two posterior thirds of the interior of the larynx.* It was then noticed that in addition to the above described immobility of the left arytenoid cartilage, the left vocal cord as well remained fixed in the middle line (position of phonation) during attempt at deep inspiration. The boy was at once sent to bed and directed to keep absolutely quiet, and to suck lumps of ice constantly, whilst his diet was restricted for two days to iced milk. No reaction whatsoever followed, and the boy was permitted to get up on the second day. Four days after the operation (December 30) the following state of things was noted: Whole left half of free border of epiglottis thickened. Left arytenoid cartilage, considerably enlarged and irregular, remains with corresponding vocal cord absolutely immoveable during inspiration in the normal position of phonation. (Plate V, fig. 2.) Over its external part on the left internal surface of epiglottis and on the part of the left ary-epiglottic fold, where it is nearest the arytenoid cartilage, there are still small patches of superficial ulceration. On attempted phonation the healthy right half of the larynx completely joins the immoveable left as under normal circumstances. Voice perfectly normal. No dyspnœa. The boy was dismissed cured—so far as the foreign body was concerned —on December the 31st, five days after the operation.

The pin when examined was found to be exactly an inch and a quarter in length, slightly bent just about the middle, and to be corroded for a distance of about half an inch, the corrosion beginning one eighth of an inch from its point, whilst both, head part and point, have preserved their metallic lustre.

Remarks.—When in 1870 Mr. Durham published his excellent tables of "Results of Cases of Foreign Bodies in the Air-Passages,"† he had to report in a total number of 544 cases and in a total of 283 cases operated upon, three cases

* Did perhaps in this case the irritation caused by the pin produce a constant spasm of the ary-epiglottic muscle—the depressor of the epiglottis? See also footnote 1, p. 824, vol. i, in my German edition of *Mackenzie's Diseases of the Throat and Nose.*

† *Holmes' System of Surgery*, second edition, 1870, vol. ii, p. 488.

only in which a direct extraction through the mouth had been attempted and had been successful. Since that time, it is true, a considerable number of cases have been reported in which foreign substances, impacted in the upper air-passages, were extracted *per vias naturales*, and there are a few cases on record in which foreign bodies, after an even still longer impaction in the larynx than was observed in this case, and after futile attempts at extraction, or without such, were finally spontaneously expelled. However, in my literary researches with regard to this question I have not come across a single case in which without preliminary tracheotomy, and after so long an impaction, the offending substance was *directly* removed by internal operation. Thus from the mere point of rarity the present case deserves I think to be recorded.

But apart from this there are several points of intrinsic interest in this case. How were the impaction in the larynx and the subsequent lesions produced? To the first part of the question the history of the case seems to give sufficient explanation. The boy had the pin, head foremost, between his teeth when he laughed. This is precisely what, according to Mr. Durham,* is the most frequent cause of impaction of foreign bodies within the air-passages. "Preparatory to the act of speaking or laughing," he says, "a deep inspiration is necessary; during this the epiglottis is raised, the upper orifice of the larynx is opened, and the margins of the glottis are widely separated. If under such circumstances, the mind is engaged by interesting conversation, or the attention is suddenly attracted, the vigilance of the muscles guarding the aperture of the larynx may not be excited, and any object contained in the mouth may be drawn by the current of inspired air into the larynx or trachea." In the present case the act was almost certainly like the one just described, to which must be superadded, that the boy in his attempts at getting rid of the pin pushed it probably only the more further on, whilst the inspiration still further deepened under the influence of fear. Now as soon as the foreign body, head foremost, had actually entered the larynx and its head touched the anterior wall of the upper compartment of this organ, no doubt, as always under such circumstances, violent reflex spasm, resulting in a sphincter-like contraction of the upper aperture, was set up, and during this act the point of the pin perforated the thyro-epiglottic ligament close to the base of the left arytenoid cartilage. I think from the history it is pretty clear that

* Loc. cit., p. 474

the pin was at once impacted in the position in which it was actually found thirteen months afterwards, and that it never shifted its position in the meantime. Again, both from the history and from the present appearance of the pin, I am inclined to believe that only its middle corroded part was actually impacted in the tissues of the larynx and that both head and point had remained free.

Now, as to the subsequent history of the case, there can be no doubt that it was one of gradually increasing severity. Free intervals varied with more or less acute inflammatory exacerbations, manifested by pain, inability to swallow solids, spasmodic cough, and finally even dyspnœa, the whole resulting at the end in considerable thickening of all the tissues in the upper left half of the larynx and in fixation of the left arytenoid cartilage and vocal cord in the position of phonation. Yet we have, neither in the history of the case nor in the present laryngoscopic appearances, any evidence as to the effect that there ever has been a *suppurative* process in the deeper structures of the vocal organ. The case in fact affords an excellent corroboration of the statement, which I ventured to make, in opposition to the generally accepted views on perichondritis of the larynx, three years ago, in a paper "On Mechanical Impairments of the Functions of the Crico-arytenoid Articulation, &c."* In this paper I maintained that the inflammation of the perichondrium of the laryngeal cartilages must not, as had been hitherto generally described, *necessarily* take always the same course, namely, produce suppuration between perichondrium and cartilage leading finally to rupture of the abscess with exposure and necrosis of the cartilage. It would, I stated, be by no means inconsistent with the general principles of the pathology of cartilaginous tissues if there were besides the, no doubt, *more frequent* suppurative form, another and more chronic form—*the adhesive*—in which without any free exudation between the inner layer of the perichondrium and the cartilage, the affected part became considerably thickened in consequence of an inflammatory new formation of dense connective tissue. For further details I must refer those who are interested in this question to my original paper. Here it suffices to say that the case now under consideration offers a valuable proof of the actual occurrence of such adhesive processes.

The fixation of the crico-arytenoid joint in this case was

* *Medical Times and Gazette*, 1880, vol. ii, p. 483.

very likely at first a purely mechanical one* and due to the adhesive process in its immediate neighbourhood. Possibly, according to general pathological principles, a true anchylosis of the joint might have been superadded later on, experience having shown that the time necessary for the production of a true anchylosis of this small joint is a very short one, namely, two to three months;† but whether this be so, is of course impossible to say positively.‡

A very remarkable circumstance again, perhaps the most remarkable in the whole case, is the fact that in spite of the severe inflammatory lesions and of the immobility of the whole left half of the larynx, there was absolutely no subjective symptom indicating that there was anything amiss with this important organ. This is already the third case of complete immobility of a crico-arytenoid articulation I have seen in which although there were no subjective symptoms of any kind, yet the laryngoscope revealed a so important and a so much developed change.§

The natural conclusion from this is that the absence of all abnormal phenomena does not justify the inference of a perfect integrity of the part—in other words, that limiting the examination of the larynx to those cases only in which certain symptoms imperiously demand its inspection means, possibly, depriving oneself of a very important and valuable aid in arriving at a positive diagnosis.

It need not be enlarged upon that it is a very lucky accident for the boy that the fixation in this case took place in the *phonatory* position of the immoveable vocal cord. No interfe-

* If the pin had actually penetrated into and through the joint itself I should of course have expected suppuration.

† See my paper, just referred to, in the *Medical Times and Gazette*, 1880, vol. ii, p. 509.

‡ *Rider added on the day when the paper was read* (*April* 13, 1883):—The question here raised may now, *i. e.* three months and a half after the operation, safely be answered in the negative. When the boy was examined this morning with the laryngoscope—for the first time since he left the hospital—a considerable improvement was seen in the mobility of the left vocal cord and arytenoid cartilage, although their outward excursions on deep inspiration by no means yet equalled those of the right vocal cord and arytenoid cartilage. It is, therefore, obvious that the impairment of mobility observed before and immediately after the operation was due more to the constant irritation and inflammatory thickening of the parts set up and maintained by the presence of the foreign body than by actual changes within the joint itself, and the name of "anchylosis," which I had thought, before I had seen the boy again, was appropriate to this form of immobility, is hardly justified in view of the improvement.

§ *Med. Times and Gazette*, 1880, vol. ii, loc. cit, Case 19; and *Lancet*, June 3, 1882, "On some rare Manifestations of Syphilis in the Larynx and Trachea," Case 2.

rence, therefore was needed, and, in fact, any therapeutical methods would be worse than the disease.

At the same time the very fact that so extensive changes took place, the preceding symptoms being on the whole comparatively slight, conclusively shows that it is not wise to allow even small foreign bodies if they are pointed or have sharp edges to remain for any length of time in the larynx.

In conclusion, I have to say that the increasing severity of the symptoms in this case again corroborates Mr. Durham's statement:* "It may be definitely and decidedly asserted that life is in peril so long as a foreign body of appreciable size is retained in any part of the respiratory tract. At the same time it is very uncertain at what period danger may become imminent, and in what way it may arise." That the measures adopted in this case consisted in attempts at internal removal of the foreign body without previous tracheotomy was justified, I think, by the fact, that at the time when these measures were undertaken there was no acute inflammation, that the boy was inmate of a large hospital and thus under constant competent medical supervision, so that in case of any untoward accident tracheotomy could at once have been proceeded with. The result fully justified my mode of proceeding, and proves that even, after very long and firm impaction, a foreign body of small size might be under suitable circumstances successfully extracted from the larynx without previous tracheotomy.

XXXI.—*A Case of Lateral Curvature of the Spine, illustrating its Treatment without the Use of Mechanical Supports.* By Bernard Roth. *Read April* 13, 1883.

IT is with much diffidence I bring a case of lateral spinal curvature before the Society to-night, since the treatment I advocate, although founded on scientific common-sense, is still considered heterodox by most surgeons. All works on surgery advise the employment of spinal stays or supports in cases of confirmed lateral curvature.

* Loc. cit., p. 487.

Before giving the case, I have to explain that the treatment followed has been that described in an article on the treatment of lateral curvature in the *British Medical Journal* of May 13 last year. In that paper I urged (1) the importance of a more careful description of the stage of any given case of spinal lateral curvature, the mentioning of any osseous deformity if present, and whether the patient can be at once restored to the normal position, and if not, to what extent; (2) that if osseous deformity be present, even to a slight extent, complete cure is impossible; (3) that many cases of apparently severe lateral curvature have no osseous deformity and can be at once restored temporarily to a normal position; (4) that a patient with confirmed lateral curvature, with or without osseous deformity, is so habituated to the vicious position, that attempts on his part to improve the position of the spine, except with the help of the surgeon's instructions, generally increase the deformity; (5) that exercises of the spinal muscles, with and without resistance by the surgeon or a trained assistant, while the patient is in an improved position, are absolutely necessary to the rational treatment of spinal curvature not due to caries; (6) that good positions should be assumed, not only at meals and at lessons, but whenever otherwise employed. This is practicable in slight cases, even with ordinary backed chairs; in severe cases, a couch with horizontal seat and moveable and moulded back is necessary; (7) that a moderate amount of walking, short of much fatigue, is beneficial; (8) that lying prone or supine does not tend to cure lateral curvature, as it does not strengthen the spinal muscles; lying from a quarter to half an hour is useful when it rests the patient; but if it be continued for several hours daily, only harm results, from the physiological activity of the spinal muscles being prevented; (9) that Sayre's plaster jacket, Cocking's poro-plastic jacket, and all steel spinal supports are injurious or useless in all cases of spinal curvature not due to caries, where the patient by an effort can maintain an improved position of the spine, even for a few seconds only; (10) that swinging by the head does not strengthen the spinal muscles (see *Brit. Med. Journ.*, Dec. 9, 1879); (11) and lastly, that by all vicious positions being avoided, good ones shown and maintained, and suitably prescribed exercises carefully practised, better and quicker results are obtained in cases of lateral spinal curvature than by any other treatment hitherto proposed.

I should have preferred to have brought forward a more

typical case of lateral spinal curvature, but being unfortunately confined to private practice, I had much difficulty in finding a case I could exhibit here.

Case.—Miss W., æt. 18, a student at the London Academy of Music, was brought to me on March 4th last year with the following history:—Three paternal aunts had spinal curvature, one much deformed; the patient is one of sixteen children, of whom ten are living. Two younger sisters, aged sixteen and fourteen years respectively, stoop considerably but have no lateral curvature. Up to fourteen years old (4 years ago) the patient was strong and never complained of her back. She then began to stoop and have backache, especially after long walks; the pain in the back would last till she went to bed. There was no illness or rapid growth to account for this weakness of the spine. The backache gradually became worse, and three years ago the patient was examined by one of the surgeons of the Sussex County Hospital, who said the spine was not straight and she was ordered to lie down for two hours daily and to eat slowly. At the end of another year, the same surgeon found the spine decidedly worse, so an ordinary steel spinal support, with pelvic band and shoulder crutches, was ordered of Pratt. This instrument has been worn for two years up to a month ago, the mother assuring me that her daughter had only become worse both in her figure and the backache during that time.

On examination, I found the patient rather thin and the subject of confirmed lateral curvature, the whole spine being convex laterally to the left; the right scapula being more than two inches below the level of the left one; also considerable exaggeration of the cervico-dorsal antero-posterior convexity, causing poking of the head, much flatness of the thorax anteriorly, and even undue prominence of the abdomen, although she was so thin. I found a slight amount of permanent rotation to the left of the lumbar vertebræ and a slight increase of the convexity of the left ribs posteriorly as compared with the right side when the patient's spine was flexed. Although the patient looked so deformed, she could be placed in an almost normal position, and maintain that position by a great voluntary effort for a few seconds. Her feet and knees were normal. Sitting for half an hour any time of the day would bring on severe backache. I was interested to hear that whenever she wished to sing extra well, she left off the spinal support for the occasion. Her dress and stays were much too tight round the thorax, so that

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R. Mintern, lith.

Mintern Bros. imp.

Mr Bernard Roth's case of Spinal Lateral Curvature

R. Mintern, lith.

Mintern Bros. imp

Mr. Bernard Roths case of Spinal Lateral Curvature.

scarcely any inspiratory movement took place in the lower half of the thorax.

I gave her directions about position and a few simple exercises for developing the thorax, including systematic deep breathing, to be practised for fifteen to twenty minutes twice daily. I ordered the spinal support to be completely given up.

Nine months later, viz. on December 18, I saw the patient for the second time. Both she and her mother considered there was a decided improvement, notwithstanding severe backache for the last fortnight. The prescribed exercises have been on an average practised four times a week. Her professor of singing has complained of her want of "breath." On examining the spine, I found it in the same state as when I saw the patient the previous and first time.

Two days later, December 20, these six photographs were taken, which speak for themselves (Plates VI and VII). Above are the three views, posterior, lateral, and anterior of the patient in her habitual position; and below are the corresponding three views of the patient in the best possible position in which I could place her. In all six photographs she was standing without boots, with the feet close together and the knees fully extended, while the pelvis was placed symmetrically in relation to the feet. These photographs were taken by a quick process, yet it cost her considerable effort and backache to maintain the improved position in which I placed her, for the few seconds necessary. It is an important detail in the treatment I employ to teach a patient to recognise the improved position as the right one, as it always feels at first more or less unnatural and crooked, as it did in this case. A looking-glass is therefore an important aid in educating the patient's sense of the erect posture.

My contention is that the instrument that this patient had been wearing (which I have here) prevented her from ever assuming an improved position, by compressing the thorax below and fixing the scapulæ, while impeding all physiological movement of the spine. I maintain that no instrument yet invented can put or keep a patient in this improved position as shown in the lower three photographs; and even if such an instrument could be invented, it would still prevent the normal physiological exercise of the spinal and other muscles.

My prognosis was that the patient could be so strengthened by three months' daily treatment, that this temporary improved position involving such great effort when the photographs were taken, would become a permanent one without any effort,

at the same time that all pain would disappear; that is practically a complete cure, although a slight permanent rotation of the lumbar vertebræ would be left.

On December 23 the patient began daily treatment, visiting my house for three quarters to one hour daily. The same prescription of exercises was used as that given in the article already quoted from the *British Medical Journal*. The following are extracts from my note-book:

January 15, 1883, seventeenth visit for treatment.—For the last week the patient has been doing two or three exercises while the right arm is directed vertically upwards and the left outwards from the side of the trunk. Yesterday and the day before she was without backache the whole day. This is the first time for more than two years that there has been a day altogether without backache. The patient's professor of singing saw her to-day and without anything being said to him, at once observed the marked improvement in her figure, and on trying her voice, found there was an increased power of "breathing."

Jan. 16.—The patient tells me the dressmaker has had to let out her dress more than five inches across the chest. On examining the back, I found the habitual position decidedly less deformed than it was on December 20, less than a month ago. Her mother and friends noticed a decided improvement in her figure at home. Her appetite is much better, especially at breakfast.

Since January 20 the patient has been practising a prescription, of which the "key-note" position is one with the right arm directed upwards, the left arm outwards, while the spine is rotated to the right and slightly flexed laterally to the left. Exercises in this position are done while the patient is standing, sitting, or lying prone with the body above the pelvis, projecting beyond the edge of a padded table.

The patient, although obliged latterly to continue her studies at the London Academy of Music, which involves her travelling twice a week between London and Brighton while under treatment, has continued to improve up to the present time.

The following are further notes from my case-book:

Jan. 31.—The patient has had no backache since Saturday, viz. three clear days, although going to London and back as usual.

Feb. 23.—The patient has not had any backache since Wednesday week, viz. ten days; previously she had rather

severe backache for two or three days; during these last ten days she has been up to London and back four or five times attending the Academy of Music. A fresh exercise was begun to-day, right sideways lying, trunk left lateral flexion.

April 9.—On examination I found the habitual position very much improved, scarcely any difference in the level of the scapulæ, and the antero-posterior spinal curves almost normal. The patient assumes the best possible position with great ease: the erectores spinæ muscles are now highly developed. When the spine is flexed the left erector spinæ muscle is still slightly too prominent. The whole trunk is vastly more symmetrical in the habitual position, that is, the one assumed without extra muscular effort.

April 11 (Wednesday).—The patient is still without backache. If this lasts till to-morrow (Saturday) that will be four clear weeks passed without aching in the back.

The patient is so much improved in figure and strength that she is to cease treatment shortly, but she will require to practise exercises at home for half an hour daily for the next three or six months.

One of my objects in bringing this case before the Society is to direct attention to the fact that measurements of the arcs of the different curves in a case of lateral curvature of the spine are not only useless but misleading, if a note be not also taken of the improvement, which can be at once temporarily effected by a muscular effort of the patient properly directed by the surgeon (see Plates VI and VII).*

Another was to induce general surgeons to investigate for themselves whether a patient encased in a spinal support can be placed in the best possible position, and whether all spinal supports are not injurious when the patient can be placed in an improved position, and can maintain that position for a few seconds by muscular effort.

Lastly, to point out that "rough and ready" gymnastic treatment, as advising a patient to swing on a trapeze with one hand higher, or moving a pump-handle, or using a skipping-rope, is not an efficient therapeutic agent in the treatment of lateral and antero-posterior curvatures of the spine. Systematic localised exercises (medical gymnastics) while the patient is placed in an improved position are essential; these

* I wish to direct special attention to the fact that the lithographed figures were copied from six photographs all taken the same morning, and before the treatment was commenced; Plate VI representing the patient's habitual position, and Plate VII the best possible position in which she could be placed, and which she could retain for a few seconds only, by great muscular effort.

exercises, combined with attention to the avoidance of all injurious positions during the day, are the two chief therapeutic agents in the successful and rapid treatment of this distressing deformity.

This case corroborates what I said in the paper already quoted, that more or less decided improvement is nearly always obtained within one month of daily treatment, and that in cases with a moderate amount of osseous deformity, three months' treatment will on an average give a satisfactory result.

XXXII.—*Two Cases of Enteric Fever accompanied by an Erythematous Eruption resembling that of Scarlatina.* By Thos. Whipham, M.B. *Read April* 13, 1883.

THOMAS B., æt. 36, a cabman, was admitted into St. George's Hospital under my care on July 1, 1882. He had previously been in service as a coachman and had lived in good places. He was a fat and somewhat bloated man. He had drunk large quantities of beer in his time, and had suffered several times from the effects of alcohol. For the last twelve months he had been a teetotaller. He ascribed the illness for which he was admitted into hospital to his having entirely abstained from drink.

Fourteen days previously to his admission he was attacked with darting pains in his head, with constant headache of a gnawing character, at the same time he became drowsy and heavy. There was no history of a rigor; the bowels had been regular and the motions natural.

On admission.—The patient complained of sorethroat and headache. There was a bright erythematous eruption all over the trunk and a fainter redness on the legs and arms. He had experienced a slight rigor in the early part of the day of his admission. There was considerable swelling of the right tonsil. He stated that he had been at work with his cab on the previous day, but that towards evening he became depressed and was almost unable to walk. His tongue was thickly coated and his bowels were confined. Five grains of calomel were ordered at once and a senna draught on the following morning if the bowels had not acted in the meantime.

On the following day the redness on the arms, chest, and legs had increased, and it had extended to the feet. Both tonsils were swollen. The bowels still remained inactive. The man was much depressed, and an effervescing draught of citrate of ammonia with three grains of carbonate of ammonia in excess was ordered every four hours, and in addition three ounces of brandy.

On the night of July 2 he was delirious and very restless; he slept only from 3 A.M. to 5 A.M.

On the 3rd a slight blush remained on the arms, but around the left elbow there was a bright, sharply-defined, crescentic, erythematous patch, which disappeared readily on pressure. The redness on the legs was less bright than on the previous day. His eyes were heavy looking, his expression very dull; he complained of headache, sorethroat, and great thirst. His tongue was dry with a thick brown coat in the centre, but red at the tip and edges. His lips were parched and coated with sordes. The pulse was 124. Resp. 60. Temp. 101·8° and 104°; the bowels had acted loosely and profusely—ten times in all. The motions were yellow. The brandy was increased to 6 oz. and the following mixture, Sp. Chlorof. ♏ xx, Tr. Cinchon. ʒj, Dect. Cinchonæ ℥iss, was ordered every four hours.

The following was the result of the examination of the chest:

Right side: Rhonchus at the end of each expiration.

Left side: Similar rhonchus but louder. No dulness and no alteration of the voice sounds.

Posteriorly the right suprascapular region was slightly dull, otherwise both respiratory and voice sounds were natural.

The heart sounds were very distant; the second being slightly accentuated when compared with the first.

In the upper part of the abdomen a little to the right of the median line a fulness was detected, of about the size of an orange.

The patient was very delirious on the night of July 3.

On the 4th his pulse was 120 in the morning and 136 in the evening. His respirations 54 and 60, and his temperature 101·8° and 103·2°. The bowels had acted twelve times in the twenty-four hours in spite of starch and laudanum enemata. The pulmonary sounds were unaltered. There was still a blush over the extremities, but no other eruption. The patient was much depressed; his tongue was dry and thickly coated, and sordes covered the lips. He sank gradually and died at 1 P.M. on the 5th, the diarrhœa having abated consider-

ably during the previous twelve hours. The enema was repeated on the evening of the 4th and contained Tr. Opii 3j.

At the autopsy twenty-four hours after death the body was found to be in an advanced state of decomposition. The tonsils were enlarged and congested, but no ulceration existed, nor had any membrane formed. The larynx, pharynx, and trachea were intensely congested. The lungs were somewhat emphysematous and greatly congested. The heart weighed 14 oz. The ventricles contained black clots. The valves were natural; the endocardium blood stained. The liver weighed 4 lbs. 9 oz., it was pale in colour. The spleen weighed 10 oz. and was diffluent. The kidneys weighed 16 oz. and were congested. The lower part of the small intestine was congested, and extensive ulceration was found in the neighbourhood of the ileo-cæcal valve; the ulcers were ragged and of irregular shape, and to their surfaces were attached sloughs coloured by fæces. The ulceration extended upwards for about 12 inches above the valve, those ulcers which were close to the valve were the deepest and most extensive. They resembled in all respects the ulcers of enteric fever, but it was remarkable in this case that there was extemely little affection of Peyer's patches except in the lower 12 inches of the ileum; in fact it was difficult save in two or three patches to detect any enlargement of the agminate glands, and even in these the swelling was very trifling.

Case 2.—This patient, Henry H., a boy æt. 4, was admitted into St. George's Hospital, under my care, on October 6, 1882. The father stated that the mother and maternal grandfather of the child were consumptive. The boy himself had suffered remarkably from infectious disease, having had scarlet fever, measles, and whooping cough.

On October 5, on his return from school, the child complained of feeling tired, refused his food, retched and vomited. He passed a very restless night. Next morning he felt very hot, his mother therefore gave him a dose of castor oil, which had not acted up to the time of his admission. The drains of the house were reported not to be offensive, but the drinking-water cistern was close to the water closet.

On admission.—The child was well nourished, and healthy in appearance. He was very irritable, with a pulse of 120, and a temperature of 104·2° F. His tongue was red at the tip and edges, and the red papillæ protruded from a central white coat. His lips were dry, and his face flushed. He was

ordered Haust. Potass. Citrat. ʒij, 4tâ quâque horâ, with beef tea and milk. He passed a restless evening, but slept fairly well during the night.

On the 7th the patient was free from cough; his respiration was natural, and he was free from pain. The tongue remained unaltered in appearance; the bowels had not acted. The urine was lithatic, but free from albumen. Several elevated pimples were found on the abdomen, but none of them in any degree resembled the eruption of enteric fever. In the evening some redness was noticed on the child's legs, and a suspicion of scarlet fever being excited he was placed in the separation ward. He was ordered a common enema.

The red rash, on the 8th, had extended to the right leg, to the trunk, and to the face; it was very bright, and too universal, it was thought, for scarlatina. It disappeared readily on pressure. The tonsils were rather red and slightly swollen. The bowels continuing obstinate an oily enema was given, and the citrate of potash was changed to chlorine mixture, and at night he had Pulv. Rhei c. Sodâ ʒj.

On October 9 the tongue had become clean, but was red; the eruption persisted on the legs, but was less marked on the chest, it was more pronounced on the arms, and on the backs of the hands were a few red papules. The bowels had not acted; the skin was dry. The boy seemed uncomfortable, and though restless was in no pain. Pulse 130, sharp; resp. 30, no cough; temp. 100° and 102·8° F.

The flush on the 10th had faded considerably, and was confined almost entirely to the legs, but the papular condition of the backs of the hands was more marked; there was no erythematous eruption, however, in these situations. The bowels were still inactive, and the tongue was again somewhat furred. A drachm of Carlsbad salt was ordered.

This had the desired effect, and the bowels were open three times by the morning of October 11. The motions were copious and natural in colour, according to the report of the nurse. There was still some redness on the outer surfaces of the legs, but this might possibly have been due to the fact that the child lay in bed on his back with his legs spread out.

October 12.—The erythematous eruption had entirely disappeared. The patient complained of sorethroat; the right tonsil was slightly swollen and red. The tongue was furred. Temp. 104·4° F.; pulse 112. The Carlsbad salt was repeated.

Next morning the temperature rose to 105° F., and the

pulse to 132. He refused food, had violent fits of screaming, and was more or less delirious.

On the 14th the bowels acted once after Ol. Ricin. ʒij and an oily enema on the previous day, the motions being partly formed and of a clay colour.

On the 15th a light brown motion was passed in the bed; the screaming fits recurred at intervals.

On the 17th the abdomen was distended, and some rose-coloured spots, characteristic of enteric fever, were discovered on the abdomen. No desquamation, however, existed. The child was weaker, and he was ordered two ounces of port wine daily.

October 19th.—He was not so well, and refused food. He lay flat upon his back with his legs flexed. The abdomen was distended, and some of the spots on the abdomen did not entirely disappear on pressure; they were petechial. There was a little tenderness in the iliac fossæ. The bowels had been open on the previous day, loosely. Pulse 144. The face was flushed; the lips and tongue were covered with sordes.

On the 20th, at the time of my visit, there was internal strabismus of the right eye, both pupils were dilated, and the screaming fits continued. This was, however, the only occasion on which strabismus was observed. He was delirious all night. There had been one loose, clay-coloured motion, which was very offensive. The spots were more distinctly petechial. The pulse was bounding. Nutrient enemata, consisting of brandy half an ounce, one egg, and two ounces and a half of strong beef tea, were ordered twice daily, and as much milk and beef tea as the child could take by the mouth.

On the 21st the patient was in every respect worse, the screaming fits recurred at shorter intervals, the strabismus had passed off, but photophobia was present. The enemata were not retained.

On the 23rd the child was evidently sinking. He had passed one liquid clay-coloured motion. The screaming fits continued.

The child died at 2 A.M. on October 24.

At the necropsy, held twelve hours after death, the brain and its membranes were somewhat congested, but otherwise healthy in appearance. The lungs were congested. The liver was natural, the spleen congested and pulpy. The lower two feet of the ilium were extensively ulcerated, the parts in the neighbourhood of the ileo-cæcal valve being most involved. Some of the ulcers were longitudinal, others were transverse,

and on those nearest to the valve were ragged, fæcal-stained sloughs. Peyer's patches, at a greater distance than two feet above the ileo-cæcal valve, were not enlarged. The mesenteric glands were generally more or less swollen and inflamed. The kidneys were congested.

Dr. John Harley in *Med.-Chir. Trans.*, vol. lv, p. 103, discusses in an elaborate paper the question of the connection between scarlatina and enteric fever. In the first part of his communication he gives twenty-eight cases in which pyrexia accompanied by a red rash, resembling that of scarlatina, proved fatal at periods varying from three to sixty-nine days. At the post-mortem examinations of all these patients lesions which are also found in persons who have died of enteric fever, were observed, viz. swelling of the mesenteric glands and Peyer's patches. One remarkable fact, however, in all these cases is that, save in Case 1, where death occurred on the third day from the onset of the fever, and in Case 8, in which the patient died on the fifth day, there was no abrasion of the mucous membrane found. In none of them was the characteristic eruption of enteric fever observed. He then gives, in the same volume, p. 126, a second series of six cases of scarlatina followed by enteric fever, viz.:

Case 29.—Scarlatina. Convalescence on 13th day. Relapse: rose papules of enteric fever on 32nd day.

Case 30.—Scarlatina. Convalescence on 19th day. Relapse: rose papules of enteric fever on 31st day.

Case 31.—Scarlatina. Convalescence on 13th day. Relapse: symptoms of enteric fever on 37th day.

Case 31A.—Scarlatina. Convalescence on 27th day. Relapse: symptoms of enteric fever on 41st day.

Case 32.—Scarlatina. Convalescence on 20th day. Relapse. Enteric fever fully developed on 56th day.

Case 33.—Scarlatina. Convalescence on 12th day. Relapse: symptoms of enteric fever on 27th day.

Of these, Cases 29, 30, 31 recovered, while the remainder died.

Finally, he gives three instances of what he terms "mixed, scarlet, and enteric fevers:"

Case 34.—Scarlatina rash on 2nd day. Rose papules on 4th day. Convalescence on 30th day.

Case 35.—Scarlatina rash on 4th day. Rose papules on 13th day. Convalescence on 20th day.

Case 36.—Scarlatina rash on 3rd day. Rose papules on 9th day. Convalescence on 45th day.

In Reynolds' *System of Medicine,* vol. i, p. 382, Dr. John Harley quotes two cases related by Mons. Forget (*Obs.*, xix, p. 144), in one of which, a strong man aged twenty, after his usual work, was seized with shivering and other symptoms of blood-poisoning. On the third day he was sent to hospital, when his hands, forearms, thighs, and chest, "offrent une belle coloration scarlatineuse." The skin was burning hot, the pulse 140, the tongue red and covered, as well as the mouth, with a white pultaceous coating; the throat was painful, deglutition also painful; there was no diarrhœa; the chest was normal. On the fourth day there was partial stupor, injected eyes, and the coloration of the skin persisted; sudamina; pulse 160, thready; back of throat very red and swollen, deglutition almost impossible; epigastrium tender. Death.

At the post-mortem examination the gastric and duodenal mucous membrane was inflamed. Peyer's glands were red, swollen, firm, elastic, and prominent. "Ces caractéres anatomiques sont tous cœux d'entérite folliculeuse trés developpée avant la période de gangréne et d'ulceration."

In the second case M. Forget gives the history of scarlatina "suive d'entérite folliculeuse."

Dr. Murchison, in his work on 'Continued Fevers' (ed. 1873, p. 515), states that "in many cases of enteric fever the appearance of lenticular spots is preceded for two or three days by a delicate scarlet rash all over the body, disappearing on pressure. This is not peculiar to enteric fever, but occurs in other forms of pyrexia."

Sir William Jenner (1850, xxii, p. 277), speaking of a red rash in enteric fever, says that the disease was mistaken for scarlatina. At a meeting of the Société Medicale des Hôpitaux on October 13, 1882 (*Journ. de Méd. de Paris,* November 4, 1882), M. Hallopeau reported a case of acute rheumatism in which there occurred an intensely red, livid eruption on the entire body, accompanied by chilliness and exacerbation of the fever; the temperature of the skin to touch was greatly increased, but there were no "anginose symptoms." This lasted one week, and then desquamation commenced in the form of white scales on the face, and in large patches on the trunk and limbs. Three days later pericarditis set in, accompanied by intense dyspnœa and pulmonary congestion, and proved fatal.

At the autopsy there was found a marked thickening of the corneous layer of the epidermis, and decided projection of

the papillæ. The patient had a similar attack, accompanying acute rheumatism, four years previously.

I saw such a rash not long since in a case of smallpox. The erythema in this case appeared chiefly on the lower part of the abdomen and on the thighs. It was most brilliant in colour. On the day following the characteristic eruption of smallpox showed itself, and the patient died in four or five days.

The great question in all these cases is this: Are they instances of double poisoning; are they, in fact, instances of mixed scarlet and enteric fever, or of scarlet fever and smallpox respectively? It is, of course, difficult to give a decided opinion one way or the other when death occurs within two or three days of the appearance of the erythema, as in the case of Thomas Bridges related above, or in the case of the red eruption preceding smallpox just mentioned.

In Dr. John Harley's three cases of mixed scarlet and enteric fevers, viz. 34, 35, and 36, and also in my second case (Henry Hill), one remarkable fact must be noted as throwing considerable doubt on the co-existence of true scarlet and enteric fevers, the absence of desquamation.

In Dr. Harley's three patients who became convalescent on the 30th, 20th, and 45th day respectively, there is no mention of desquamation, while in my own patient, Henry Hill, who survived till the 19th day, no traces of peeling of the skin were to be found.

It is moreover remarkable that in this case the mother was quite clear in her statements as to the child having suffered from scarlet fever and measles previously to his fatal illness.

Furthermore, it will be noted that in all the cases referred to, the red eruption invariably preceded the symptoms of enteric fever, and that in Dr. John Harley's Cases 29—33 (*Med.-Chir. Trans.*, vol. lv), convalescence was fairly established before the onset of the enteric fever. These would appear, therefore, to be instances of scarlet fever followed by enteric. In his "mixed cases," 34, 35, 36, and in my own two, no period of convalescence separated the two fevers, supposing them to be distinct.

It seems therefore difficult to avoid the conclusion that the last three of Dr. Harley's cases, together with the two which form the subject of this communication, are in reality instances of enteric fever preceded by an erythema, which is not uncommon in smallpox, and which is frequently observed in pyæmia.

XXXIII. *A Case of Tabetic Arthropathy in which the Tarsal Bones of both Feet were Involved.* By Herbert W. Page, M.C., F.R.C.S. *Read April* 13, 1883.

THE case of which I propose to read the history this evening was originally shown by me in the Museum of Living Specimens at the International Congress, and I have to thank the Council for allowing me to bring it in fuller detail before the Society, many points of interest, which it is desirable to place on record, having arisen since that meeting.

J. W., a farrier, æt. 30, presented himself at St. Mary's Hospital on February 3, 1881, on account of a swelling of his right foot. He gave the history that about the middle of October, 1880, his right leg and ankle began to swell without any known or obvious cause, so that for five weeks he suffered a good deal of pain, and was unable to walk. The swelling of the leg gradually subsided, while the foot steadily increased in size. Latterly he had been quite free from pain.

The right foot in the region of the cuboid, scaphoid, cuneiform, and metatarsal bones was found enormously enlarged, giving a strange, widened, elephantine appearance to it. The bones themselves felt as if they were enlarged, and were easily moveable on one another in any direction, but free manipulation of the part gave him absolutely no pain. There was no œdema of the leg, and the movements of the ankle-joint were natural. Some doubtful anæsthesia of the sole was noted. In himself the man seemed fairly well. He had had a chancre some eight years before, and iodide of potassium was prescribed in the belief that the condition might perchance be in some way due to syphilis, a mere speculation, for I had never seen anything like this foot before. The foot was bandaged, and the man was ordered to rest.

Little change took place during the next few weeks, but on March 14 it was noted that the foot was swollen rather more along the outer margin, and had become slightly tender. Some "broken corns" had come upon the sole of his left foot under the metatarso-phalangeal joints of the first and fifth toes, and there was a painless ulcer at the very extremity of the big toe. Suspicion was aroused by this new feature in his case as to the possibly trophic origin of the sores, but it was not until April 25, on his sixth visit to the hospital, that

the absolute painlessness of the very angry-looking ulcers on the sole of his left foot led to a closer examination of the patient. It was then found that the knee-jerk was entirely absent in both limbs, and that his pupils presented the Argyll-Robertson phenomenon. He was but very slightly unsteady when standing with his eyes shut. His gait in fact had never been ataxic, nor was there anything remarkable in his walking except the lameness, which might well be accounted for by the state of his feet. The optic discs were normal. The following history of his previous life was then also obtained. He had always enjoyed good health, and been able to follow his occupation as a farrier, shoeing horses himself, and able to hit a nail quite accurately. Four years before he had an attack of severe pains down his legs, and he had occasionally been subject to pains of the same kind since. They were very severe, and he described them as being like "jumping toothache." Two years ago he was laid up for nine months with a serious illness, spoken of as "nervous debility," but of which the chief characteristic was incessant vomiting. The attack seized him without any apparent cause, began with a feeling of great hunger, as if he could eat anything, and was followed by the profuse vomiting which lasted for so long. The vomiting was frequent, often as much as twelve times every morning, began as soon as he got up, even before he took any food. Liquid and not solid food was alone vomited. The sensation of hunger passed away, he could no longer eat, he wasted much, and it was thought he would die. All sorts of remedies were tried in vain, and at the end of nine months the illness ceased as suddenly as it had begun, and his health and strength were gradually restored. About that time also he had "gathered corns" on the sole. From the medical gentleman then attending him (Dr. Ferris, of Uxbridge) it has been subsequently learned that the sickness was accompanied by cramps of the legs, of a neuralgic type, and very severe. He also complained of a fixed pain two inches above the umbilicus, to which point the sensation of sickness was referred. Throughout the illness he had severe night sweats.

To return now to his feet. Towards the end of May, 1881, the right foot seemed to get smaller, and the sores on the left healed after a small piece of bone had come away. On May 25 it was noted that the left leg was much swollen below the knee, and at his next visit, on June 6, when I had the opportunity of showing him to Dr. Buzzard, this swelling had markedly increased. The leg did not pit on pressure as

in ordinary œdema, but looked much more like a commencing solid œdema or elephantiasis. The left foot had then (June 6) very much the original appearance of the right, though not in so marked a degree, and there was no bony crepitus. The swelling had come on since May 25, and almost without pain. The corns were healed. He was still at his work, and was improving in his general health.

I next heard of him on July 5 when he wrote to ask that, as soon as he could be moved, he might be admitted into the hospital, having for the last fourteen days been "very ill, continually losing large quantities of blood in his water, and his legs being still very bad." He was accordingly admitted an in-patient on July 21, and of his recent illness it was learned that it began with "shivering across the loins and chattering of the teeth"—obviously a rigor—that then for four days he passed large quantities of blood in his urine, that he had profuse diarrhœa, and for a fortnight vomited everything he took. The attack passed off however, and again he had begun to mend.

About the middle of June his right foot broke on the outer side, at the point where it had been rather tender, discharged "stuff like dried blood," and then began to get smaller. When shown at the Congress on August 6, the swelling of this right foot had much subsided, and the bones, originally involved, seemed anchylosed together. The left foot, however, had gone on from bad to worse. It had gradually increased in size, and on July 14 "all strength," as he said, "seemed to go out of it, the ankle suddenly slipping on one side." It presented on August 6 enormous enlargement; all the bones of the tarsus were freely moveable on one another, bony crepitus could likewise be obtained at the ankle-joint, and the foot gave the sensation on handling of being a mere bag of loose bones. Manipulation was painless. Such a foot would, indeed, have called for immediate removal had not the nature of his case been known, and had not the subsidence of the swelling and the anchylosis of the bones of his right food suggested the advisability of leaving his left foot alone. It was therefore secured in a plaster-of-Paris bandage.

On August 1, while he was an in-patient, he had one of his attacks or crises, and the note runs that he had been feeling much better until 3 A.M. when diarrhœa began and continued all day. In the afternoon he was very sick, bringing up a large porringerful of bile. He had "cold shivers down his back" nearly all day, and in the evening his urine contained

a large quantity of blood. The pains in his legs were also unusually severe. On the next day the sickness and diarrhœa were less, but the hæmaturia still continued. The attack lasted until the evening of August 5, and had pulled him down so much that he could with difficulty be taken to the museum on the 6th, and had it not been for his own great desire to show himself he would certainly have been left in bed. The temperature during this attack was 101·4° F. on the evening of August 1, but the next day it fell to normal, and remained so both morning and evening until the 4th, when it rose to 100·4° F. at night, and for the next few days it varied between normal and 100·6° F. There was no acceleration of pulse. The urine contained large quantities of unchanged blood, which apparently came from the kidney, examination failing to discover any other source for it. He had never had any difficulty in micturition. In the intervals of freedom from the attacks the urine was found in every respect healthy; sp. gr. 1018, acid, no albumen, no casts. He was discharged on August 18.

He was next seen on November 24, when he reported that six weeks ago, after an attack of severe electric-like pains; his knees became swollen. At the same time blood was passed in his water for three days. On this date there was still some effusion in both knee-joints. On removing the plaster bandage the left foot was found much reduced in size, and no bony crepitus could be detected. He has fairly good movement at the ankle-joint. He has gained flesh, and there is no more ataxia than formerly.

From this time he gradually improved, was able to bear more weight upon his feet and with the support of felt splints upon his ankles to get about more comfortably.

In July, 1882, he had a passing attack of pain in his knees and legs, and again in November, 1882, he had some shooting pains and the corns threatened to trouble him. The shape of his feet was all along changing.

I saw him again on January 26th of this year (1883). He looked in good health, said he felt as well as ever he did, and thought soon of resuming his work. He had had no more attacks of vomiting or hæmaturia, and for long had been free from the "jumping" pains. Little or no ataxia could be noticed, and he walked with his eyes shut for six or seven yards. His gait, however, is very peculiar from the extraordinary condition of his feet. The dorsal arch seems to have disappeared, and the articulation of the tibia with the astragalus to have moved forward, so that the feet look shortened.

This is more marked in the right foot than in the left. The sole of this foot is 4¾ inches wide, and there runs across it, midway between the heel and the toes, a hard transverse ridge, composed doubtless of the tarsal bones, for the base of the first metatarsal bone has no longer a cuneiform bone to articulate with, and stands out as an abrupt projection on the dorsum. On this transverse ridge his foot rests on the ground, and you are able to get the tip of your little finger underneath his heel when he is standing. There is no bony crepitus, and he has good movement at the ankle-joint. The deformity of the left foot is very much the same, but not in so marked a degree; it is weaker at the ankle than the right, and he is obliged to wear a leather support.

This case has now been under continual observation for more than two years, and the history of it is so long that I shall refrain from all speculation about it, believing that at present we shall not do wrong to be content with the clinical study of this remarkable disease. Let me point out the rarity of the arthropathy which was observed, and which, though having much in common with the arthropathies of the hip, shoulder, and knee, differs from them in some important points. Common with them were the sudden onset of the change, the rapid effusion of fluid and enlargement of the affected parts, and the absence of all such constitutional disturbance as would inevitably be induced by joint destruction or inflammation from any other cause. But unlike the affections of the larger joints seems to be the fact that the disease has been arrested without such destruction or absorption of bone, as have been observed in the heads of the femur and humerus, although the relative position of the tarsal bones has been materially and permanently altered. Of the rarity of this particular form of arthropathy there can be little doubt, and M. Charcot himself remarked when he saw the case in London that only one instance of the same kind had fallen under his observation. And while naming this great observer, to whom we owe so much for throwing light on this disease, it may be well to recall his words to Dr. Buzzard (see *Brit. Med. Journ.*, March 5, 1881:—"You will find these cases in the workhouse infirmaries and in the surgical wards of hospitals." It is by surgeons of general hospitals, not by physicians of special hospitals, that these cases must be recognised and recorded, and that too in the absence of the prominent symptom ataxia to lead to a suspicion of the existence of tabes dorsalis. And the practical importance of this recognition is

abundantly shown by the history of this case. Had his left foot been the first affection seen, as it was seen on July 21, 1881, there can be little doubt that the foot would have been at once condemned and forthwith removed. It was by a mere accident, as it were, in the development of his symptoms that the patient still has his foot, deformed it is true, but better than any artificial limb. And this other feature in the case deserves to be specially named; the occurrence of the attacks of paroxysmal hæmaturia, beginning with rigors, associated with the symptoms of a true gastric and intestinal crisis (see Mr. Keetley's case *Trans. Clin. Soc.* vol. xv, p. 14) and ushered in by increased lightning pains. It is this association which seems to indicate that the hæmaturia was not less a symptom of the disease than the vomiting, the diarrhœa, and the arthropathies. All use of the word *crisis* in immediate connection with the hæmaturia has been purposely avoided, but the history of this case may at any rate suggest a new line of observation and inquiry in the study of those cases of paroxysmal hæmaturia or hæmatinuria whose cause and origin are so frequently obscure.

XXXIV.—*Case of Lepra Tuberculosa (Tubercular Leprosy.)* By W. J. Tyson, M.D. *Read April* 27, 1883.

R. C. S., æt. 16. Was born in Galway, Ireland; when two months old went to India, and remained there until he was six years old, then returned to Ireland, and has not been abroad since.

His father, a soldier, died of sunstroke; his mother still living, thirty-five years of age, is quite well; has one brother, now seventeen, healthy, and one step-sister, well.

The first indication of the disease was noticed two years ago in the face; the skin, particularly of face, has gone on steadily becoming involved since. There is no history of syphilis or of a previous attack of pemphigus.

He came to Folkestone in June, 1882, and was apprenticed to a carpenter; previously to his coming he was in the Chelsea Hospital for one year. His diet does not seem to have been abnormal.

Present condition.—Is physically and mentally fairly strong.

His height is 4 feet 8½ inches, and weight 7 st. 1 lb.; the hair is of a reddish colour, and eyes are blue. The skin of the face is soft to the feel, thickened, and a brownish-red colour, on the forehead it is furrowed longitudinally; the whole face presents somewhat a lion-like appearance (Plate IV, fig. 2). On his chin and just underneath it are about a dozen small elevations (tubercles), varying in size from a mustard seed to a pea; they are whitish in colour. On the trunk, both in front and behind, the skin is of a yellowish-brown colour.

The thoracic and abdominal organs are apparently normal; no albumen in urine. Below the fold of right buttock there is a patch of flattened tubercles, and over left olecranon a softish mass the size of half an ordinary walnut. The hands are generally cold, the skin of which is thickened and cracked; around each wrist-joint there are a few tubercles; skin over feet is red, thickened, and scale-like in appearance. All joints are sound, and no ulcerations, except on mucous membrane of mouth, over right side of pharynx. The voice is hoarse, but the boy states that this is only of recent origin.

Report of Committee on Dr. Tyson's case of tubercular leprosy.

The Committee appointed to examine the microscopic appearances presented by the skin of the lad exhibited by Dr. Tyson on April 26, and considered by him as a case of tubercular leprosy, beg leave to report that a portion of skin was cut by Dr. Tyson from the boy's arm and was immediately immersed in strong alcohol. This was sent to Dr. Thin who made sections from it in the usual way, taking care that no opportunity was given for the development of putrefactive bacteria in them.

Some of the sections were stained with methyl violet, others with fuchsin dye. Those stained by fuchsin and afterwards bleached by weak nitric acid showed the bacilli best and in the greatest abundance; but in all the specimens the bacilli which Dr. Thin and others have found to be characteristic of leprosy were apparent.

The bacilli themselves, and the manner of their groupings, were well brought out by the usual methods of staining, and the sections thus freshly cut from the leprous lad corresponded entirely in appearance with other preparations in Dr. Thin's possession made by him of tubercular leprous skin. No doubt was left upon the minds of the members of the Committee that the micro-pathological aspect of leprous skin is quite peculiar,

and its substance permeated by bacilli, which are similar to those seen in tubercle. Control experiments instituted by Dr. Thin render it impossible that these bacilli could have been artificially cultivated in the sections after the skin was removed from the body or were derived from the fluids employed in preparing and mounting the specimens.

Reginald Southey, M.D. Oxon.
Dyce Duckworth, M.D.
G. Thin, M.D.

XXXV.—*On Removing large Portions of the Upper Lip without Deforming the Face.* By Richard Barwell. *Read April* 27, 1883.

EPITHELIOMA, common as it is on the lower, is on the upper lip a rare disease. The case about which I wish to speak this evening was an undoubted instance. The malady was developed on the left side of the lip close too but not involving the commissure. The man confessed to smoking a great deal. He used very short clay pipes which often were very hot at the part next the lip, and he went on with the same pipe until, and after, it was quite black. Still that does not account for the carcinoma attacking the upper instead of the lower lip. The tumour was very characteristic and had in its centre running from the surface back towards the mouth a semi-circular groove, which was just the size of an ordinary clay-pipe stem and looked as if the tissue was worn away by that instrument or by the heat at which he smoked it. It is not, however, the peculiarities of the disease but those of the operation which I devised and carried out that cause me to bring the case to the notice of this Society.

George S—, æt. 61, with the exception of an epithelioma of the upper lip, a healthy man, a road mender, was admitted into the Charing Cross Hosiptal under my care October 31, 1882.

The disease was so placed, and occupied so large a space that it was evidently necessary to remove at least two-thirds of the lateral half of the lip in order to eradicate the disease. Now, a considerably larger part than this may be excised from

the lower and even as large a proportion from the central part of the upper lip without the production of much deformity but it was easily apparent that to take so large a piece out of the extreme side of the upper lip and to bring the edges of the wound together, must result in very unsightly wry distortion of the mouth, unless some means to prevent it were adopted. The following is the operation which I performed Nov. 4, 1882. With a pair of compasses I measured the length of the red border, and also the height of the triangle that had to be excised. Placing one leg of the compass at the corner of the mouth, the other in a line directly outward from that point, I marked the cheek accurately to the former distance by a mere superficial incision just into the skin. From this base line I took the second measurement downwards towards the ramus of the jaw, thus marking outside and below the corner of the mouth a triangle exactly like that which I intended to remove from the upper lip but reversed.

The first, the horizontal incision, was now deepened down to, but not into, the mucous membrane, then the two sides of the triangle were incised through all tissues into the mouth. In this part of the procedure, although the facial artery was compressed on the jaw, pretty smart bleeding occurred; it was easily suppressed by torsion of several vessels. The thick tissues of the flap were dissected away from the mucous membrane which was left hanging to the horizontal incision and its extreme point being scarified it was turned up, and stitched to the edge of that incision giving it a red border. The cancer was then excised along the lines already traced and measured.

After this the edges of the lower, or what may be called the complementary, triangle were brought together with twisted suture. In doing this it is to be noticed that the horizontal base line of the complementary triangle was necessarily shifted inwards, and came to lie above the lower lip, taking the place of that portion of the upper lip which had been removed with the cancer. The new red border, which I had made by turning up the mucous membrane of the cheek, did excellent duty for the normal red edging of the lip. The wound of the upper lip was now brought together with hare-lip pins, and a horsehair stitch secured the edge of the new to that of the old lip, and also to the lower one at the commissure.

When all was complete the parts fitted very well together, and there appeared to be no deformity at all. The face was supported by strips of adhesive plaister.

Nov. 6.—The lip was dressed, the pins being removed and fresh supporting strips applied.

Nov. 9.—There is a little swelling round the wound in the upper lip, the plaister had been applied rather too tightly. This defect was remedied.

Nov. 11.—Swelling has disappeared; the man begged to be allowed to leave, I kept him two days longer. He went out on Nov. 13.

Jan. 13.—The man has a mouth as good in shape as before the operation. The new part is perhaps a little short, but his mouth was hardly a model of form previously. There is hardly any or no deficiency or abnormity of movement to be discovered.

It may be permitted me to point out that the whole upper or lower lip can be restored by taking a triangle, after this method, from both cheeks below, or above, the mouth, and preserving mucous membrane for the red border. Such a method, according to my experience on the subject, forms a far better lip than the usual procedure.

XXXVI.—*A Case of Local Asphyxia. Symmetrical Gangrene.* By Reginald Southey, M.D. *Read April* 27, 1883.

FRANK N., æt. 9, was admitted under my care in Matthew Ward, November 25, 1881. He was a large-headed, fair-complexioned, light-haired child, the son of parents who were respectable and pretty well-to-do. He had been at school, and shown intelligence above other boys of his age, and had enjoyed fair health up to the autumn of 1881, when he was attacked with some feverish illness, attended by pain in his limbs, and believed to have been rheumatism. Its exact nature we could not ascertain, but he was confined to bed for some weeks.

On his admission he was greatly emaciated, and his hair was falling off in large quantities. His abdomen was empty and retracted, and skin dry. He was in a very nervous excitable mental condition, crying constantly when we attempted to examine or interrogate him, and then singing snatches of songs and hymns in a loud tone not unmusically; by day he

slept a good deal, but as evening approached he became very noisy, singing and screaming alternately. He used to pull handfuls of hair off his head. His appetite was bad, but tongue was clear and moist. Pulse 148. There was no cardiac murmur. The heart beat in its normal situation, but its impulse was feeble; there was no increased præcordial dulness. Respirations 32 per minute. No abnormal thoracic dulness. No physical signs of lung disease. Liver and spleen not to be felt. His urine presented no abnormality, but was difficult to obtain, being passed usually, as his motions were, in bed. The bowels acted once daily, and were not loose; micturition gave him no pain.

The single noticeable fact I observed was the localised gangrene of the tip of his right index finger, and the coldness of his extremities. His hands were therefore swathed in cotton wool with bandages, and his feet wrapped in flannel and kept warm by hot bottles. He was placed on a nourishing diet, little at a time and given often, while small doses of chloral were ordered for him according to his requirements, the object being to keep him quiet and asleep.

Course and progress.—The gangrene of the right forefinger crept slowly but steadily onwards, and in a few days involved the entire terminal phalanx. The extreme susceptibility of the cutaneous capillaries to cold impressions was apparent in all parts of his body where these were exposed by baring his skin or in washing him. The skin mottled, like a baby's skin, and his face generally had a peculiar aspect, from somewhat livid mottled patches contrasting with intervening portions that were extremely pale. Further, parts that were covered up, as his hands and feet, quickly became red and hot, and throbbed and burnt in a manner intensely painful to him; the stage of benumbing coldness being succeeded by burning heat. Thus after a few days we found it quite impossible to keep his hands swathed or his feet covered, for directly they grew hot and painful he would tear off his bandages, and throw off his bed clothes.

On December 3 the thumb and second finger of his right hand were observed to be red, swollen, throbbing, and hot, just like chilblains, and there was a small purple patch upon the helix of his left ear, evidently a blood stasis, which felt quite hard between one's finger and thumb. The following day, December 4, this patch was still apparent, although smaller, but the third finger was assailed like the thumb, fore, and second fingers, and all four looked extremely livid-red

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Dr Southey's case of Symmetrical Gangrene

(Plate VIII) while redness and swelling of the thumb of the left hand was also present.

On December 5 a spot, exactly similar to that upon his ear, of local blood stasis threatening gangrene, appeared at the extreme tip of his nose, and the tip of the right middle finger became quite black.

For the last two days he has had four ounces of port wine daily, been kept upon a warm-water bed, and has taken bromide of potash and chloral occasionally, as well as plenty of good nourishment, meat and eggs, milk and custard; his appetite being very good.

I did not think it desirable to continue the chloral longer than a week; it did him no apparent good, and tincture of opium in five-drop doses quieted him more successfully.

During the ten days the boy had been under observation his temperature had been recorded at least twice daily. In the morning before ten o'clock it was normal usually, or only slightly elevated to 99·4°; in the afternoons and evenings it rose to from 101° to 102·8°.

On December 10 the general condition of the boy remained much the same, and he continued to take food fairly. The tongue being pretty clean. The urine passed in fair quantity, and his bowels acting regularly, and his nourishment seeming well digested. A fresh feature of his illness manifested itself in his skin. The subcutaneous mottlings (tachetées) already noticed on his face had developed into raised patches, like urticaria tuberosa of Dr. Frank, that appeared all over his trunk and limbs indiscriminately; much the same sort of rash is described by Willan and Bateman, p. 120, as erythema tuberculatum. Thus in various places his skin itched very much, so that, unable to use his own hands, he prayed the nurses to rub it for him, when numerous wheals or smooth-surfaced patches varying in size from a quarter of an inch to an inch or two in cubic area would arise; their colour at first was pink, then dusky red, and they became finally, after a few hours existence, more or less livid coloured, and then extremely tender and sensitive to the slightest pressure. The rash occurred over his face, body, thighs, nates, legs, and arms indifferently, but the patches that were most painful and tender upon pressure were those situated over ill-cushioned, prominent bones and ridges, as over the tibiæ and at the knee and elbows.

Beyond the undoubted local asphyxias of Raynaud at his extremities, this skin affection was the main source of his

sufferings, for the digits once advanced to gangrene did not appear to trouble him much. The patches were especially hot and painful at night, keeping him awake and leaving him uncomfortable in any position, feeling sore and bruised all over, and compelling us occasionally to cradle his limbs against slightest contact of bed clothes. The only comfort he obtained was when placed in a bath between 98° and 100°, in which he was laid often, for from twenty minutes to half an hour at a time, two or three times in the twenty-four hours. Indeed, considering his feeble pulse and extreme debility, I believe he owes all the little sleep he had in those days, and very likely his life itself, to the constant bathing and tender nursing then bestowed upon him. The only further treatment employed at this date, beyond occasional sedatives, was some iron and quassia mixture.

The change in him from day to day was not considerable. Thus I abstract from the clerk's note of the 16th December: —After a noisy, delirious, restless night he is now sleeping quietly after a bath. Nose very purple at tip; two fresh black spots on his right thumb; face mottled and livid; left hand very livid generally; has complained much of the itching (chilblain-like) of his fingers; his voice continues strong, but hoarse from screaming; takes nourishment well; bowels loose and very offensive. Temperature between 100° and 101°. Pulse 144. Resp. 32.

Dec. 19.—The tips of all the fingers of his right hand are gangrenous, and the flesh of the fingers below the gangrened ends are livid and swollen. Left hand, thumb, index and little fingers, are extremely dusky. Abdomen full, its superficial veins enlarged; the hair is entirely bared from right side of his scalp by his constant rubbing it upon the pillow. He is less fretful, but now utterly prostrate and fatuous rather than delirious. Bromide of potassium and tincture of cannabis indica were now substituted for his opium.

In the course of the ensuing week the gangrene made rapid progress, spreading from the tips of all the fingers of the right hand backwards or centripetally, the black streaks extending first on their dorsal and afterwards on their flexor aspect. By December 29, it was doubtful how much of the metacarpus might follow, for while the fingers were dead up to their roots, a large superficial black patch appeared upon the skin tissues of the back of the right hand—the first and most affected member. The flexor aspect of the left thumb was gangrened as well as left index and little fingers; and a portion

of skin of scalp, upon his right parietal eminence, previously described as rubbed and bald, also looked gangrenous and sloughed. He had a loose troublesome cough with broncho-pneumonic sputum, and tubular breathing over lungs posteriorly. Resp. 36. Pulse 164. His prostration and sufferings were extreme from the itching of the cold stage and the burning of the hot stage of his rash, but as hopeful symptoms, he slept fairly and took nourishment well and had no diarrhœa. When experience fails me, and I find no recorded observations of others to help me, I make experiment. During this week I decided to treat the two hands differently, the right was kept immersed in a warm bath of water at about 98°, but the fingers of the left hand were freely painted over with flexible collodion; the latter did best, afterwards I remembered that Raynaud had discovered that chloroform was the best local application.

In the first week of January his general condition improved, the lines of demarcation between dead and living parts defined themselves, suppuration commenced, his cough improved, and he began to gain a little flesh, took bark and acid and ate well.

On January 9th we obtained a specimen of his urine which was acid, sp. gr. 1012, and contained both blood-cells and albumen; it attracted attention by its dark colour.

The following days and for several subsequent days it was natural coloured and of specific gravity varying between 1010 and 1025. He presented a true intermittent hæmaturia, provoked apparently by impressions of external cold to the surface of his body. Thus after exposure, and being washed, he would pass a specimen of urine containing blood, whereas urine passed a few hours later contained a mere trace or none. My clinical clerk, Mr. Spreat, whose attention I especially directed to this new feature of vaso-motor disturbance, compiled a carefully tabulated record of the urine, noting the hour when the sample was passed, its specific gravity, its reaction, presence of albumen, blood, phosphates, urates, and oxalates. It professes to be no elaborate chemical quantitative analysis, but it furnishes some facts of interest and perhaps of importance. The blood was usually very apparent by its dark colour and the obvious sediment it gave, but its presence was at times only detectible by the guaiacum reaction, oxalate crystals either preceded or accompanied the hæmaturia usually. If there were no oxalates, blood was usually absent.

During the latter part of January, February, and March, blood was more often absent than present in the urine and

this only very temporarily. Throughout April it was more often present than absent, and upon some days in such quantity and associated with albumen to some amount (one tenth sediment). Throughout May, June, July, and the early part of August there was relatively much more albumen than blood-cells or blood-colouring matter, and the case observed superficially might have been regarded as one of chronic Bright's disease; against this, however, abutted the important facts that the amount of albumen and of blood was most unequal upon different days, and that even upon days when one sample might contain much albumen another passed a few hours later would contain none or only a faint trace. No tube casts were ever seen.

To revert, however, from this digression.

Throughout January suppuration and separation of the gangrened digits was taking place, and it was observed that the fæcal evacuations were of a most offensive kind. He did not seem to suffer from the local necroses and their offensive secretions, which charcoal poultices and chlorinated soda rags only rendered tolerable. His temperature ranged between 97·4° and 101·4°, it always rose of an afternoon and sank of a morning.

February 22.—The chief abiding symptom at this date was the peculiar urticaria or erythema-nodosum-like skin rash already described. One large patch appeared over lower end and inner aspect of right tibia; another large patch on right thorax; several spots on both arms. Similar swelling and redness invaded the left eyelid, occurred round both ankles, even came upon his face.

On March 2 his right eyelid was so much swollen that he could not open it, and there was a newly developed patch of erythema as large as the palm of my hand upon the inner side of his right thigh. In this rash the order of events was always the same, first came itching and then extreme tenderness to pressure, tingling, and burning, finally, gradual subsidence of the patch with brown discoloration marking its site.

On March 21, after seven days' trial of quinine and iodide of potassium draught, the patches, which for the want of a better name I will call tachetées, were wellnigh all well, and he was taken out on mild days into the hospital square. The latter part of March and first half of April his temperature was very little above normal, and he was in all respects better and stronger.

On April 1 we were able to discontinue his stimulants, he had had eight ounces of port wine and two ounces of brandy

daily since the previous December. This was followed, however, by some return of the tachetée rash, a patch on the nape of his neck, another red painful wheal along the outer side and middle (elbow part) of right arm, and a distinct patch running horizontally round from the right ear to right nostril. Also a little later over the four lower ribs on his right side. The hæmaturia began afresh on April 9.

My house physician, Dr. Gresswell, hit upon a successful method of relieving the severe pain which attended the first stage of this rash, it consisted simply in firm pressure by a bandage. His first experiment was made upon a raised erythematous patch which measured about three inches by one, and was situated on the outer aspect of the boy's right scapula. The spot felt hot and was slightly raised, but scarcely at all red. Here pain, which had kept him awake for some time, became quickly relieved by a pad and bandage. Failing pressure, however, local cold, not warmth, was found the best thing, and an ice-bag seldom failed to procure him sleep when local pressure alone failed. Slight pressure increased the pain, firm pressure relieved it. Movement of his legs has proved painful to him; the flexed position in which they have been maintained, although relieved by a little movement in the hot bath, had become an habitual one, and the tendons at the back of both knees, but especially of the right, were felt hard and tight; the knees were therefore directed to be daily kneaded and shampooed while he was in the hot bath. Marked improvement in them followed within a few days. He was got out of bed daily, was carried out whenever it was warm enough, and amused himself by drawing.

On the 17th of May his notes record some difficulty experienced in holding his water; oxalate crystals were found in great excess in it. Two days later the hæmaturia began again, then uric acid crystals were passed, and he had pains in his legs, knees, inside of thighs, of ankles, associated as before with a crop of erythema nodules. The capriciousness of the hæmaturia in its intermittency is well shown by the record of May 28. Urine passed early this morning contained blood-cells enough to bestow distinct blood colour, but no casts could be discovered. The urine passed the same afternoon looked a natural colour and presented only six red cells in the microscopic field with an average of one large oxalate of lime crystal.

This attack of intermittent hæmaturia lasted from fourteen days to three weeks.

July 10.—Another crop of tachetée rash occurred, attended by intermittent hæmaturia.

July 18.—Has swelled up again, and effusion took place into knee-joints. This attack resembled a rheumatic attack very closely, indeed, the case observed then for the first time, and apart from its history, had served very well as an example of peliosis rheumatica, minus the colic pains, so characteristic of the latter.

At the beginning of August he was able to walk about again. Weight, 2 st. 8 lbs.

In reviewing this case I may refer once more to the manner in which his illness commenced. It was called, as thought, rheumatism by the doctor who treated the case before admission into hospital, but the heart was never complicated. It resembled rheumatism by its painfulness, by its implication of limbs and joints. The local gangrenes did not constitute the disease, they were obviously mere episodes of a general blood disorder, with vaso-motor disturbance and local stasis of the circulation. The tachetées, local asphyxias, and gangrenes were the principal features of the illness. For the oxalates and intermittent hæmaturia I interpret as a kidney affection, again, significant only of vaso-motor disturbance. The albumen in the urine was complementary only to the blood-serum and blood-cells in it, never being beyond a very moderate quantity, attended by no tube casts, associated with oxalates. There were no symptoms to justify the inference of a calculus, no pain in micturition even, or in the penis. The quantity of urine passed was never deficient. He never presented any dropsy. There was no tendency of blood to transude by any other mucous tract; he had no epistaxis, nor hæmoptysis nor hæmatemesis, nor was he ever known to have passed any blood in his motions.

The extreme rarity of this malady will, I trust, be accepted as an apology for the length at which I have detailed this case. Its publication, however, follows as a proper sequel to one of symmetrical gangrene narrated by me in volume xvi of our *St. Bartholomew's Hospital Reports.* To this I may refer my readers, and once again I venture to append some comments on the disease and refer to some similar examples of it.

Case recorded by Mr. Thomas Smith (*Clinical Soc. Trans.*, vol. xiii, 1880, p. 197).—A rickety girl, æt. 3, with an enlarged spleen, had an abscess in upper part of her thigh. This was opened antiseptically on September 23, 1879. Her previous health was delicate, she had been subject to cough, and used

to complain of pains in her feet and legs when walking. It was stated that she occasionally had coldness of both hands and feet, and swellings of a livid colour upon them, like ordinary chilblains. When first seen her left hand was observed to be cold and bluish in colour.

On October 4, while in other respects going on well, being well fed, cheerful, warmly covered in bed, and without any obvious disease likely to determine embolism or thrombosis, having neither cardiac murmurs nor albuminuria, her right hand and fingers suddenly became swollen and cold, and discoloured bluish-green up to an inch above the wrist; beyond this more gangrenous discoloration up the forearm was an erythematous blush.

The brachial artery could be felt to pulsate at the bend of the elbow, but the pulse at the wrist could not be felt until the swelling subsided two days later. Her pulse was 144, temperature ranged between 100° and 102°.

In the course of a day or two blebs formed upon the hand and fingers, and a line of demarcation appeared on proximal side of the first row of knuckles. Her temperature remained high for ten days and gradually subsided, but three weeks afterwards the temperature again suddenly rose and remained high for nine days coincidently with carboluria (as it was thought), and is described by Mr. Smith. Some dark discoloration of the urine occurred which ceased when the carbolic-acid dressings of the abscess were discontinued. When or how soon this urine coloration ceased is not narrated. The sp. gr. of urine, the presence of blood-cells or not, or of albumen, are not specified, indeed, the carboluria is diagnosed and was apparently accepted as a fact not unlikely, and therefore not requiring investigation or proof.

Now, the coincident elevation of temperature, lasting for nine days, is certainly not what I have observed in carboluria, and agrees with my experience of the hæmaturia which complicated my case, and which is perhaps no exceptional incident to this peculiar local asphyxia, *i.e.* vaso-motor arterial spasm, as distinguished from arterial embolism or thrombosis.

As to Mr. Smith's case, it only remains to add how complete and destructive the gangrene was. In the latter part of November the child's thumb and all her fingers separated at different intervals of time, but the child left the hospital well.

A case closely resembling our own is to be found, however, detailed at length in Dr. Francois' *Essai sur les Gan-*

grenes Spontanées, Paris, 1832. The same is given in abstract in Raynaud's famous thesis *De l'Asphyxie Locale et de la Gangrene Symmétrique des Extremités,* Paris, 1862, p. 106. It was observed by a M. Bocquet, and first published in 1808 in the *Journal de Corvisart,* t. xvi, p. 283.

Abstract.—M. Bocquet writes that he was called to attend a female child of three years old, who, in January, 1803, had been seized with acute pains in her limbs, and especially in her legs. In the course of three or four days feverish symptoms supervened with emaciation, and the appearance of a great number of brown patches resembling bruises, which came out over her whole body excepting the head; some of the spots had a livid colour and were very painful; they came out two or three at a time and gradually faded, the fever rash and weakness being extreme between January and April, and it was not until the end of August of that year that the child became able to walk.

In season, symptoms, and endurance, how like this case is to the one I have brought before you.

She then picked up strength and flesh, and remained well up to January, 1804, when again her limb pains and brown spots reappeared, and at the same time the distal phalanges of the fingers of her left hand became black and gangrened. Her illness lasted up till the following month of June, by which time the whole of the left hand separated, having gangrened up to the wrist-joint, and the last phalanges of the thumb and little fingers of the right hand, and two phalanges of his right foot dropped off. There were also several scars (from separation of local gangrenous patches of skin?) upon her shoulders, in the lumbar regions, and upon dorsal aspect of right thigh.

The child again recovered strength and grew fat, and although the gangrened parts were not altogether exfoliated until August, she remained well up to the next January, 1805, when the same events were repeated in exactly the same order—pain, rash, loss of strength, inability to stand or walk, emaciation. This time no actual gangrenes are described.

Once more in August she recovers, and has her fourth relapse in January, 1806, when, as before, with exception of her head, every part of her body was covered with brown spots, which, with emaciation and loss of strength, lasted up to August, her invariable recovery month.

This malady seems to have been known in some parts of France under the name of tachetée; is it, writes Dr. Francois,

the true morbus maculosus hæmorrhagicus de Werloff? surely it is the disease, but named by Raynaud local asphyxia, and its agreement with our own case in every respect except annual recurrence is most remarkable.

Mr. J. R. Bigg writes in the *Lancet*, 1870, vol. ii, p. 397, the case of which I make the following abstract:

Mrs. R., a weakly woman, was confined in March, 1869, and had remained sickly and feeble up to May, 1869, when she was suddenly seized with, first, severe itching and secondly, pain in both her hands. (Let me call attention to the symmetrical mode of invasion.) She next noticed the appearance of a blue spot at the tip of her nose, and lividity of the tips of the little and ring fingers of her left hand. The left foot was shortly afterwards similarly affected, and then her right hand and right foot, and finally the lobules of both ears. The blueness commenced at the periphery, extended always centripetally. Itching or tingling were the first abnormal sensations perceived, the pain much increased on any movement. As to her previous health, it was only elicited that she had complained all her life of cold extremities.

Although she was treated with liberal diet and good nursing, and took morphia, gangrene, moist of her feet, dry of her fingers, ensued, and forty days after its commencement it was necessary to remove the tip of the nose and portions of both ears; finally both feet were amputated above the ankles and both hands removed at the wrist. She made a complete recovery, and left the Dundee Infirmary four months and a half after admission.

This case, says its narrator, could not be referred to ergotism or embolism. No disease of the heart or arteries was made out, and he attributed it therefore to organic changes of the capillaries. (*Vide* Raynaud's case, *Year Book of Med. and Surgery*, 1862, and *Brit. and For. Med.-Chir. Review*, Philadelphia, July, 1856, Dr. Henry.)

Observation 8 in Dr. Raynaud's thesis is a case from the pen of Dr. O. Landry, published in a *Memoire couronné par l'Academie de Médecine*, Paris, 1855. It presents several points of close analogy to my own case, and I therefore add a brief abstract of it.

Adolphini T., a delicate woman, who had mammary abscess after parturition followed by an attack of intermittent fever lasting for three months, was seized fifteen days after getting well of her ague with sharp pain in her left foot, increased by every effort at walking, but attended itself by neither redness,

swelling, nor fever. The pain was situated at the tibio-tarsal articulation, lasted on and off for two months, and then left her, and her health in the month of November, 1850, was moderately good save for a little breathlessness and palpitation upon exertion. Suddenly at this period she experienced a sensation of extreme cold at her finger tips, and without having exposed them to any low temperature. The ends of the phalanges became dark red, and their nails blue violet, this change being attended by a sharp pain as if they were benumbed.

These local circulatory disturbances were repeated more or less day after day; they were worst of a morning, improved as the day advanced, while towards night the sensation of numbing cold was replaced by an intolerable burning heat, which cold water relieved, although it aggravated the pain in the algide or stagnation stage. For fifteen days these events occurred regularly, when the coldness of the parts became permanent, and was followed by no hot reaction, the fingers' ends assuming and retaining a purple-black permanent colour. Meantime the pains had become even more atrocious, and provoked convulsions in her. A M. Robert called in to see her in consultation, and thought at first that she was in for several whitlows, but ultimately diagnosed and treated her for arthritis with leeches to the palm of her hand and finger tips, and sedative cataplasms.

At the same time the end of her nose presented a purple discoloration like that on her fingers, and each morning a little blood escaped from her nostrils. For three weeks she was freer from pain, then these returned again with such violence as to excite convulsions. Laudanum was applied locally.

M. Huguier, under whose care she passed, thought her history pointed to rheumatism with heart complications, and considered these circulatory disturbances part symptoms of a heart affection. He bled her, applied blisters and cauterisation to the præcordial region, and gave her digitalis. Towards the end of January a portion of her right ear was affected like her fingers and attacked with pain and smarting. She was now (April 5) admitted into Beaujon Hospital under M. Saindras.

A bruit was heard loudest over the base of the heart, but not enough to justify a diagnosis of organic valvular disease. The main feature of the case was the pain felt in the local asphyxiated fingers; the nose was but little painful, and the

ear pain was more endurable. The pain came in fits which lasted for about an hour, and were repeated five or six times a day. It was noticed that when the pain came on the parts darkened in colour and became hot; between times the fingers were simply dead white or exsanguine. Chloroform water applied locally relieved her pains most, and morphia internally.

May 18.—The superficial cyanotic patches were worst on the left hand, occupying the thumb, index, and middle finger, and extending on its dorsal surface. These parts, though deprived of tactile sense, were extremely tender to pressure.

In July and August, although the local asphyxias were not lost, they were less frequent, and attended by pain more easily subdued, and less hysterical attacks. Her general health was excellent.

Her after-history is that of an hysterical lunatic, who finally died in the Salpêtrière of phthisis.

XXXVII.—*Three Cases of Raynaud's Disease.* By Thomas Barlow, M.D. *Read April* 27, 1883.

I HAVE watched three cases which came within the category of Raynaud's disease, but none of them so severe as that which forms the text of Dr. Southey's paper.

I will narrate them in the order of their severity, taking the mildest case first. I must apologise for the imperfection of the notes. When I saw the first and the third cases I was in the dark as to the nature of the affection.

I. In October, 1882, my colleague, Dr. Poore, was good enough to show me, in the out-patient room, a little girl, æt. 5, who presented an appearance at that time quite new to both of us. The whole of the right foot and ankle, and the leg for a distance of three or four inches upwards, had become within a very short time cold and of a nearly uniform greyish-blue colour.

The child whimpered a little with pain in the foot, and did not like it to be handled much. Just below both elbows on the dorsal surface of the forearm there was an area of perhaps three inches in length of ill-defined blueness and coldness.

This slight blue area was more marked on the right than the left side.

The first thought on looking at the foot was that there had been some arrest of arterial blood supply with subsequent venous stasis. But the child, although pale, had no cardiac disease. There was no reason for suspecting embolism into or disease of the large arterial trunks, and the smaller degree of the affection of the skin below the elbows made one willing to suppose that the condition might be temporary, and perhaps due to spasmodic contraction of vessels. The child was admitted into the ward under Dr. Fox, and I learnt that the blueness passed away within an hour or two, and in the evening and next day the child seemed perfectly well.

The day but one afterwards, about 3.30 P.M., whilst sitting in the ward, she got another attack, which I saw. There was slight blueness and coldness of the left foot and ankle. The child whimpered a little, but was able to walk across the ward with a slight limp, and the foot became natural again in less than half an hour, and she had no further trouble. She was sent out next day, and I subsequently got a complete history of her from her mother.

The child had been suckled nearly two years; had been late in teething, and probably rickety to some extent, to which her chest, which was somewhat pigeon breasted, bore witness. She had not suffered from any of the acute specific diseases, and there had been nothing special in her history till February, 1881, when she was about three years and a half old. It was very cold weather, and the child was out of doors, but she was carried in somebody's arms, and the mother remembers that she wore worsted stockings and boots at the time. When brought into the house she complained of cold feet, and vomited some watery stuff. Her feet were quite blue, and the blueness extended for a short distance above the ankles. She was put into a warm bath, but without benefit; the blueness remained from 5 o'clock till midnight. Next day she was all right, and played as usual.

Seven months passed before she had another attack, and this was in the month of September. She was outside at the time, and as before was wearing worsted stockings. The blueness lasted two hours. She had another attack in a week's time, and several during the winter following.

Since that time her attacks have been confined to the cold weather, but they come on occasionally indoors, especially if the child sits about much. The mother has a strong belief in

the value of exercise in warding off attacks. The attacks occur mostly in the afternoons, never in the nights whilst in bed. The longest duration observed has been seven hours, but many attacks pass off in less than an hour. Latterly the elbows have been affected, but the ears and nose have never suffered. Some of the attacks commence with gaping and complaint of sickness. She has never vomited except in the initial attack. She is sometimes thirsty and hungry when the attack commences. The mother has never seen anything wrong with the child's urine.

II. The second case was also that of a little girl, æt. 5, sent to me by my friend, Mr. Alford, of Haverstock Hill, who had carefully noted all her symptoms.

She was of healthy parentage; her father was said to suffer from rheumatism in the knees, and his mother from the history had had some deforming joint disease of knees and hands. This child was the third of the family of four children, the others being healthy.

She had been suckled for twelve months, and with the exception of what was called "congestion of brain from teething" at sixteen months, had been a healthy child. She had had whooping-cough and measles when one year old, and had got through them well. She had never had ague, nor had her parents suffered from it.

In September, 1881, being then about three years and a half old, she had her first attack of coldness and blueness with pain, affecting one foot and lasting for several hours. Very soon after this attack commenced the child passed some very dark urine. She had another similar attack in a few days, and then repeated attacks during the winter until the month of April, 1882. There were sometimes two or three during the week. The duration was not generally more than three hours. The attacks were much more liable to appear on going outside, but occurred indoors also. They never occurred in the early morning nor during the night, but were most common about midday. The pain always preceded the coldness and blueness. The child did not pass dark urine with every attack, and never more than once with each attack.

During the first winter, along with the above symptoms, she complained on some occasions of pain in her stomach, and in one attack the left hand became cold and blue up to the wrist. Her last attack of the first winter was on May 6.

She was then free till September, 1882. I saw her in February, 1883. Up to that time she had sometimes gone fourteen days without any attack, and at other times she had had two in the day.

On February 15, when I saw her, the day after an attack, her feet were cooler than the rest of the body, but there was nothing else noteworthy. She was a sensitive, intelligent child, not robust looking, rather thin, but not unduly pale, and without any sign whatever of visceral disease. Some of the dark urine which she had passed the day before was brought for examination. It was acid in reaction, and gave on boiling about one tenth of albumen, which came down in granular form and was unaltered by the addition of nitric acid. There was a deep blue reaction with tincture of guaiacum and turpentine. The deposit showed, however, under the microscope, no blood-corpuscles, but fine brown granular stuff and crystals of oxalate of lime.

During the week which followed she had two attacks, one of which lasted two hours, affecting the left foot, and one an hour and a half, affecting both feet. After the first attack the urine was black but not after the second.

March 15.—For about eight days she had had an attack daily mostly in the left foot, but on some days in both. She was suffering from an attack when I saw her. Both her feet were blue and cold as high as the ankles. On this occasion her urine had a copious deposit of lithates, but gave no reaction with the guaiacum test and was free from albumen. Her temperature was 99·6° in the axilla. The skin, excepting that of the feet, felt natural. The heart sounds were natural; the spleen could not be felt; her tongue was clean. Some subsequent specimens of urine gave characters similar to the first. On one occasion there was a deposit ef phosphates. In some attacks I learnt that the stomachache before referred to sometimes preceded and sometimes succeeded by an interval of two hours the pain and coldness of the feet. The dark urine did not always follow attacks in which stomachache had been complained of, and sometimes appeared after attacks in which there was no stomachache. I was not able to elicit that the child had any other referred visceral pain, as, for example, in the loin. Her stomachache she referred to below the tip of the ensiform cartilage. The mother had come to the conclusion that the more widely diffused attacks, viz. those affecting both feet and a hand, preceded or succeeded by stomachache, were less severe in duration and pain than those

which affected one foot only; and I think it comes out from my notes that these latter attacks were more frequently followed by dark urine than the former, but this requires further investigation.

The last attack of the present season was on May 10.

III. John P., a lock maker, æt. 42, came to me at the end of January, 1883, complaining of pains in the feet. He stated that he had been a healthy man before his present complaint. There was nothing in his previous history to suggest either rheumatism, gout, syphilis, or ague.

In the month of April, 1880, whilst at Darlington, he began to suffer from a series of attacks of sharp pain in the heel of the left foot which he found extremely cold. The pain and coldness would last for twenty minutes or more and then pass off, and afterwards the feet would burn and feel hot to the touch. Subsequently the toes and the other foot became affected. The instep was much less affected than the toes and heels.

He was away from work for three weeks and less liable to the attacks when in bed. The doctor told him at first it was rheumatism and subsequently neuralgia. Neither then nor at any time since has he had any joint affection along with the attacks.

After about three weeks he was able to go to his work again, but found himself often taken with these attacks in the street. He became quite helpless in them sometimes, so that he was obliged to sit down until his feet "came to" again. He sometimes found that he could keep off the attacks by sharp walking, but directly he stood still or sat down, an attack would come on, and when fairly established he was quite unable to walk it off. It is quite clear that when the warm weather came the attacks diminished in frequency and severity, but according to his statement he has been very few days entirely free from attacks since April, 1880.

During the second winter (that is 1880-81) the attacks affected the right foot more than the left, and there was much more blueness of the toes, and he began to have blue patches on his thighs. He suffered most in the month of January, and this has been the case during the present winter. He has been many days unable to go to his work, and although he is decidedly better in bed, he is not absolutely free even there from slight attacks. Besides the patches on the thighs he has also had similar patches on the buttocks, and his fingers

are nearly always cold but do not become blue in the same way as the toes. One month ago he found that there was a sore place at the end of the second and third toes of the left foot.

He has had no trouble with his eyesight and never seen anything wrong with his urine. The patient was rather a spare, ill-nourished man. He had no sign of visceral disease that I could make out and he was not specially anæmic. His toes were all greyish-blue and cold, and at the extreme tip of the second and third toes of the left foot there was a small circumscribed sore from which there had evidently been superficial loss of substance. These sores were not like ordinary chilblains, the skin round was not swollen or shiny.

On the outer side of each foot the skin was bluish and on the outer side of the middle third of the right thigh there was a bluish area about the size of two crown pieces. At a subsequent period a similar patch was seen on the left thigh and others on each buttock. These patches it is difficult to describe. The skin was not raised over them, and at the time when I felt them, they were not colder than the adjacent parts of the limb. They were uniform in colour and the tint was intermediate between that of a patch of fading erythema and that of one of the large ecchymoses sometimes seen along with purpura. The appearance was such as could be imagined to be obtained by lightly staining the deeper layers of the skin with some hæmatoxylon. The patches were permanent for some weeks and were the situations where the patient explained to me that he felt at various times cold and tingling.

The only other point about this patient was that his left calf was a little smaller and perhaps more flabby than his right. This made one think of the possibility of some obscure spinal cord mischief, but there was nothing else to suggest it, and the patient assured me that this difference in the calves had been noticed by other doctors for a considerable time, but that he had not suffered inconvenience from it.

I examined the patient's urine on two occasions and found it normal. He attended for about six weeks, I fear with little benefit. When the warm weather came his attacks again declined in severity.

Remarks.—The general subject has been thoroughly discussed by Dr. Southey in the *St. Bartholomew's Hospital Reports,* and a remarkable case was also shown by him at a recent meeting of the Pathological Society. Moreover, an

example of what was probably a severe manifestation of this disease, was recorded by Mr. Thomas Smith in the *Clinical Society's Transactions* for 1880, under the title of "Spontaneous Gangrene of Thumb and Finger. Also Mr. Hutchinson has shown and described cases of the severe form in which limited gangrene occurred. It would, therefore, be unseemly for me to enter upon any general observations on the subject. But there are a few points to which I should like to refer in regard to what may be called the mechanism of the disease, its alliances, its nomenclature, and its therapeutics.

(1) As to what may be called the mechanism of the disease, it is of course impossible to dogmatise; but the first case in Raynaud's last papers* seems to establish that what really takes place is a spasm of arterioles. In this case, after characteristic attacks involving the extremities had recurred during two or three months, the patient began to suffer from ocular troubles. During the attacks the eyesight was good, but on their subsidence his vision became, as he expressed it, "troubled and confused," clearing up again with the next attack. This was more marked in the left than the right eye. During such an interval between two attacks it was found on ophthalmoscopic examination that there was considerable narrowing of the lumen of the central artery of the retina and its primary branches, and that partial momentary "strangulations" could be seen at times. There was very marked pulsation of the retinal veins. During the occurrence of an attack of local asphyxia of the limbs, ophthalmoscopic examination did not reveal complete subsidence of the above phenomena, but they were very much lessened in amount. The ultimate recovery of the patient from the limb affection was attended by complete disappearance of the ocular troubles. It seems quite clear that the eye affection and the local asphyxia of the extremities were allied in their nature and mode of production. Raynaud half regrets in his comments that in this case the affections of limbs and of the eyes were not simultaneous, but this appears to me a matter of little importance. It is, indeed, most interesting to note, in the history of the second case that I have recorded, suggestions of the progressive march of spasmodic arteriole contraction to different tracts of the body.

It is also, I think, important to note the varying intensity and distribution of different attacks in the same individual,

* "Local Asphyxia of Extremities," *Archives Générales de Médecine*, 1874, vol. i, pp. 5, 189.

and that although the bilateral symmetry on which Raynaud has insisted seems often to obtain, it is by no means invariable, and when it occurs is not necessarily equal in amount.

The last development of Raynaud's doctrine, if I may summarise his own words, is that there is a peripheral excitation, most commonly consisting in an impression produced by change of temperature on the cutaneous nerves, and that whilst in the normal state either very low temperatures or exposure for a long period are necessary for the production of more or less analogous effects, in these individuals an insignificant difference is sufficient; further, that the peripheral stimulus affects that part of the grey matter of the cord which presides over the vaso-motor innervation, and that a great exaggeration of the irritability of that part of the cord must be assumed.

Now given the initial slight peripheral stimulus there seems no reason why the central disturbance should not radiate and become manifest in several different regions successively instead of simultaneously, and this brings me to consider (2) the alliances of the disease.

I think everybody who has watched these cases, and also those cases of paroxysmal hæmatinuria in which no evidence of ague can be obtained, must have been struck with certain points of resemblance. They are not in a true sense periodic, but they are both paroxysmal. Attacks in both affections have a remarkable relation to changes of temperature. By far the greater number of cases of both are exclusively winter or cold-weather affections, and if not exclusively they are primarily so, and if the attacks do not vanish they notably diminish when the warm weather appears. It is worthy of note that the paroxysms in Cases I and II never started in the night when the patients were in bed, and the same obtains with regard to paroxysmal hæmatinuria.

In both the paroxysms may begin with yawning or with vomiting, and the extremities, as I can testify, may in the onset of an attack of paroxysmal hæmatinuria become extremely cold and blue. It is also, I think, important when comparing the latter affection to an ague fit to remember that there is nothing corresponding to the sweating stage, and although I can recall one marked example of hot stage, I believe that this is not at all a constant feature.

I am not so foolish as to say that Raynaud's disease and paroxysmal hæmatinuria are the same disease, but only that they are allied diseases, and it is of great interest to note that

in my second case many of the attacks combined the features of the two diseases.

I believe that Dr. Wilks has referred orally to his having a case under his care with a similar combination, and Dr. Southey has also referred to it.

It will be worthy of investigation in cases of Raynaud's disease whether any other visceral paroxysmal affection can be ascertained, like the splenic enlargement which often occurs with the hæmatinuria cases, and whether also some of the cases of temporary ocular ischæmia, which are known to ophthalmologists, may not be found to present local asphyxia elsewhere.

With respect to antecedent diseases, in none of the three cases which I have described could ague be supposed to have anything to do with the affection. There was in these cases no question of syphilis, but in a remarkable case which was under the care of my friend Dr. Henry Humphreys, of St. Leonards, and which progressed to the stage of extensive symmetrical superficial gangrene of both lower limbs, there were unquestionable signs of inherited syphilis. Dr. Humphreys has told me that he had no reason to correlate the two affections.

The President has asked whether in these cases there were any arthritic signs. In my cases there was nothing definite. I have an adult patient under observation who suffers from cold extremities, and whose fingers, toes, ears, and nose are always a little bluish, and he also suffers from slowly progressive symmetrical contraction of most of his finger-joints; but as he has never had any paroxysmal attacks his case ought not to be included in this group.

Raynaud in one of his cases refers to plastic thickening along some of the tendons of the hands, which thickening cleared up entirely when the attacks of local asphyxia ceased.

Mr. Hutchinson has asked the question whether some of the cases of end-joint arthritis which he figures in his *Illustrations of Clinical Surgery* may not be allied to those of local asphyxia. This will doubtless receive further investigation.

I think it would be productive of confusion if Raynaud's cases were mixed up with cases of chilblains. The subjects of Raynaud's disease are not, I believe, the subjects of chilblains in the ordinary sense. When they get sores at the extremities the sores are, if one may so say, definitive in character, and due to actual gangrene of greater or less extent, sometimes, indeed, going to the length of a digit.

The essential clinical note of Raynaud's disease, at all events primarily, is the paroxysmal character of the circulatory disturbance, and this I apprehend does not apply to those who are the subjects of ordinary chilblains.

(3) With regard to nomenclature, it appears to me that the great difficulty is to get a term which will include cases which differ much in their distribution and intensity, but which are essentially the same. Raynaud admits that his original term, "local asphyxia," is not a good one, and there are obvious objections to the term symmetrical gangrene in the fact that many of the cases do not go on to gangrene, and also, that when gangrene occurs it is not always symmetrical. I doubt whether any better term than Raynaud's disease (which has already obtained a partial currency) will be found.

(4) As to therapeutics, it would be presumptious for me to offer more than suggestions. I will only mention that I found that a patient of mine, who was the subject of paroxysmal hæmatinuria, and who had been from childhood always washed with very hot water, was greatly improved by using first hot then cold water, and ultimately only cold water. At all events, she became able, even on a snowy day in winter to walk a considerable distance without getting an attack.

Applying this to my second case of Raynaud's disease, during an attack I used friction with cold water, and her mother was willing to admit that the attack sooner came to an end than had formerly been the case.

Raynaud has, in his last paper, recorded some cases which seem to show the benefit of the descending constant current down the spine, and this, I think, one certainly ought to test in any future opportunity, as well as local galvanism to the extremities in which the asphyxia first starts.

XXXVIII.—*A Case of Subcutaneous Nodules occurring in a Patient the subject of Syphilis, and with very indefinite connection with Rheumatism.* By Stephen Mackenzie, M.D. *Read April* 27, 1883.

Y. B., æt. 40, married nineteen years, and has had eight living and two stillborn children, and two miscarriages. She states she has never had any serious illness. Three years ago she had some vulvar sores which were treated at St. Bar-

tholomew's Hospital with a lotion that cured it. She does not remember any eruption at the time of or following the vulvar affection, but after it was cured she had a sorethroat which lasted five or six weeks, and which resisted all treatment until medicine of a new kind was given, a couple of bottles of which sufficed to cure it. She was confined a few months after the sores at full term, but the child (male) was stillborn. She has borne one child since, now eleven months old; it has never had any eruption, but suffered from a sore tongue.

Two years ago she had a slight eruption on her thighs, the exact character of which cannot from her description be determined. It itched a good deal, and subsided spontaneously.

She came under my notice in the Department for Skin Diseases at the London Hospital, for an eruption on the forearms and feet. She stated that she was in her usual health when, eight months ago, she noticed some spots on the front of the left forearm, and two months later similar spots came on the front of the right forearm. Following this, about two months before these notes, the legs became affected. It is now (January 27, 1883) still spreading; and, as it has throughout its course, it itches very much.

When she was being examined, it was found that she had several subcutaneous nodules. Two of these, about the size of small split peas, are in the subcutaneous tissue along the posterior border of the left ulna, quite near to each other. They are hard, elastic, freely moveable, and distinctly subcutaneous. Another is situated in the subcutaneous tissue opposite the front of the second joint of the left thumb. It has the same general characters as those near the elbow, but is rather smaller. There is one much smaller in the web of the left thumb and index finger, and one on the palm of the hand. The last, from the character of the subcutaneous tissue of the part, is but slightly moveable, but can be clearly defined. On the right hand there is one nodule in the subcutaneous tissue covering the pulp of the thumb, one in the web between thumb and index finger, and one on the inner side of the fourth finger. There is doubtful nodule (to which she directs attention) in the subcutaneous tissue of the left buttock. It is firm, but from the character of the skin and tissues beneath this part, not so distinctly moveable. In all, eight detected. The skin over these nodules presents its natural appearance.

She noticed, she states, the first nodule (nearest to the elbow) two years ago, and it has increased in size. The other

near it she has known of about six months. None that she has observed have disappeared, but she thinks that on the right thumb is less prominent than it has previously been. The nodules have been attended with no pain or inconvenience except that caused by accidental pressure. When asked whether she had ever had rheumatism in any form, she stated she had not, but her husband reminds her that she suffered from pains in her legs eight years ago, and for which she used a liniment. It was not sufficiently bad to cause her to lay up with it. She never had chorea. The heart is normal, and there is no evidence of arthritis, present or past.

The patient has dark hair and eyes, but, for a brunette, a fresh complexion. She has a well-marked papular syphilide on the forearms and right scapula, some palmar psoriasis on each hand, and a scaly serpiginous eruption on both feet and slightly on nates. There is slight superficial ulceration of the lip. No family history of rheumatism.

The physical characters of these nodules are exactly those of the nodules described by Drs. Barlow and Warner as occurring in connection with rheumatism and allied affections, and of which I have had several cases under my care.

The interest in the case lies in the very indefinite, if existing, connection with rheumatism, and it is for this reason that I submit it to the notice of the members of the Society, where several cases have been already shown this session. The association of the nodules with the syphiloderma may be fortuitous, and any generalisation on a single case is obviously inadmissible. The duration of one of the nodules has been greater than in any of the series of cases recorded by Drs. Barlow and Warner. The longest period that they noticed nodules to persist without diminution was five months.

XXXIX.—*Case of Rheumatismal Cutaneous, Subcutaneous, and Periosteal Nodules: probable Syphilitic Taint.* By Dyce Duckworth, M.D. *Read April* 27, 1883.

THIS patient came under the care of my colleague, Mr. Langton, and was transferred to me by him in February of this year.

Marian F., æt. 38, housewife. Twice married; one child by first husband, never pregnant by second. Came to St. Bartholomew's Hospital on December 19, 1882, under the care of Mr. Langton. She complained of numerous small tumours on the arms and legs, which were annoying and painful. She was a healthy-looking woman, with clear complexion and fair hair. Had lost most of her teeth. Her story was that she noticed the first tumour on her right elbow in September, 1879. This was quickly followed by another on the right knee, and the others have been observed to come since that time. There was no noteworthy medical history in her case save the following, which, in view of that reported (v, p. 188) by Dr. Stephen Mackenzie in a case shown to this Society some weeks since, seems to be of some importance:—In June, 1879, it appears that this patient had a rash which extended over her face, chest, and arms. It was, she states, like measles, and about the same time she had a sore-throat. These troubles were cured by some pills recommended to her by a friend, said to contain sarsaparilla.

The nodules appeared three months afterwards. She complains that they are now the seat of sharp, piercing pain, worse at some times than at others, and especially are they annoying in cold weather.

There is no personal history of rheumatism or of chorea, but her mother suffered from rheumatism, and one of her sisters has had three or four attacks of rheumatic fever.

The heart is fairly normal as to position of apex beat, and there is perhaps a slight roughness of the first sound at the apex.

But little change has occurred under treatment up to the present time. Iodide of potassium, quinine, and salicylate of soda have been employed, and belladonna plaster has been applied over the larger and more painful nodules.

The tumours are situated in the following positions:

Right arm.—One over the posterior surface of ulna, about two inches from the olecranon, very freely moveable, not adherent to the periosteum, circumscribed, about the size of a penny. This has become softer, smaller, and more moveable under treatment. There are two more lower down on posterior surface of ulna, much smaller in size, and firmly adherent to the periosteum. The first of these two is about four inches from olecranon, and the other about a finger's breadth lower down. There are none over the radius. There is one on the anterior surface of the wrist, firmly fixed to

anterior ligament, about size of a pea. One small one in palm of hand over the third metacarpal phalangeal articulation, fixed to fascia, about size of a pea. One on outer side of dorsum of third phalanx of little finger.

Left arm.—One over the posterior surface of ulna, four inches from olecranon, small, slightly moveable, but not adherent to the skin. None over the radius. On the hand there are six, all small, adherent to skin.

Right leg.—One over lower angle of patella, moveable, not attached to the bone, ill defined, about the size of a penny. One about two inches below patella, much firmer, freely moveable, adherent to skin, well defined, about size of a three-penny piece. Numerous small ones down the crest of the tibia to within five inches of ankle, firmly adherent to periosteum. Two or three small ones over upper part of fibula, firmly adherent. None on the foot.

Left leg.—One over lower angle of patella, well defined, about size of a shilling, freely moveable, non-adherent. About two inches below first is another tumour, smaller and freely moveable. Along the upper two thirds of crest of tibia numerous small nodules can be felt firmly adherent to periosteum. Patient complains more of these tumours than of those on the right leg.

Symmetry in disposition of the nodules is fairly marked along the ulnæ, and more so on the lower extremities. No nodules found on the scalp, ears, scapulæ, or spinous processes of vertebræ.

Dec. 28.—Patient states that all the larger tumours have become smaller, but are much more painful, especially at night. Pressure and pricking cause much pain.

Right arm.—Patient has noticed a pain running down front of forearm. The tumours on the posterior surface are smaller and more moveable. On the palm of the hand two small nodules have appeared opposite third and fourth metacarpal-phalangeal articulation.

Left arm.—No change. The nodules in palm are smaller.

On the legs the tumours seem smaller, but are much more painful, so that patient can hardly stand for any time.

Having regard to the clinical features of the case, and to the family rheumatic predisposition, I venture to call these nodules rheumatic in their nature.

It is not without interest to call attention to the possible existence in this instance of syphilitic taint. The history elicited of a roseolar rash and sore-throat, together with other

circumstances in the story of the patient, cast a very strong suspicion of this modifying influence in the case.

Be this as it may, I believe that a more extended study of these cases will show that there are several types or varieties of them.

This case, as well as one shown to the Society at the beginning of this session (v, p. 51) illustrates a form in which the nodules are very persistent, and are attached to skin and to periosteum. In Dr. Barlow's and Dr. Warner's cases, which were the first brought forward, the affection was noted chiefly in children and young adults; the nodules were subcutaneous and did not last more than a few weeks or months.

In this case there is history of the affection having lasted for two years and eight months, and in the one shown last year by me the nodules still remain, although becoming slowly smaller, being now of twenty months' duration.

XL.—*Examples of the two Classes of Cases in which Cerebral Abscess, Meningitis, or Pyæmia originate in Disease of the Ear.* By W. B. Dalby. *Read May* 11, 1883.

IT may be said to be a matter of common knowledge that out of a large number of cases in which the tympanic cavity has been the seat of inflammation, and in which the membrane has become perforate, a certain proportion of the individuals so suffering die of meningitis, cerebral abscess, or pyæmia. In recalling to mind a considerable number of fatal cases of this nature they seem to divide themselves into two very distinct classes. In the first place are those in which a person in apparently good health, with both tympanic membranes entire, is seized with acute pain in the ear, followed in a few hours by a purulent discharge from the meatus and immediate relief to the pain, in other words, is attacked by acute inflammation of the tympanum ending in rupture of the membrane. Within a period to be counted by days he or she has rigors, and in due course the usual symptoms and endings of meningitis or pyæmia.

In the other class, before any serious complication arise,

perforations have existed for many years, attended either continuously or at different times by a purulent discharge; and these may be again subdivided into those in which the bone forming the tympanic cavity is diseased, and those in which it is not.

The chief questions of interest belonging to this subject are:

1. Can it be predicted of any case of perforation in an early or intermediate stage of its history that the probabilities are in favour of a fatal termination?

2. What are the particular local conditions of the ear or the symptoms which would point to such a conclusion?

3. Should any especial precautions be taken?

4. Is there any treatment of a local kind that should be employed as a protecting influence?

5. Is there any treatment which is often employed in perforations that should be especially avoided?

I will endeavour to suggest and to seek answers to these questions by briefly referring to a few of the cases which have come under my observation, mentioning those points only which have a direct bearing on these inquiries.

Case 1.—On September 27, 1876, a healthy country gentleman, æt. 50, applied to me on account of a purulent discharge from the ear, which had come on fourteen days previously, after an attack of pain that had lasted about five hours. With the exception of this symptom and slight loss of hearing he appeared very well. As there was very little loss of tissue, and as it was one of those cases in which when not interfered with the perforation often heals, I advised him for the time being to do nothing more than syringe the ear with warm water twice daily, and he went into the country. In three days after this he was (whilst in church) seized with a rigor; the next day he became comatose, and died on the following Wednesday. Cause of death meningitis.

Case 2.—In the same year, 1876, a gentleman, æt. 55, being two weeks before in good health, had then an attack of pain in ear lasting about twenty-four hours; this was succeeded by a purulent discharge. There was, when I saw him, a large perforation which he could freely blow through, and it is to be noted that the discharge was unusually profuse, the ear becoming filled within five minutes of its having been syringed. He felt ill, as he had done from the beginning of the trouble, his tongue was coated, but he had up till then no

rigor. He had attacks of intense giddiness. For many days the discharge continued as copious as ever. He felt a very distinct weight on the affected side of the head, and occasional pain in this situation; no tenderness or swelling over mastoid or the neck. This state of things continued for twenty days, when after a severe rigor he became rapidly comatose, and died in forty-eight hours. Cause of death meningitis. The points for notice in this case were the continuously profuse discharge, the head pains, the giddiness, and the fact that the illness was continuous from the time when the ear began to pain up to his death.

Case 3.—Before the 21st September, 1876, I had been in the habit of seeing a boy, æt. 16, about twice annually for some years under the following conditions. He had at four years old become totally deaf, and consequently dumb, after scarlet fever. The tympanic membrane of the *left* ear was perforated, there was facial paralysis, and dead bone in the tympanum with a purulent discharge. The right tympanic membrane was entire, and beyond being absolutely deaf on this side he suffered no inconvenience from this ear. At the time referred to I was sent for to see him in the country, and found that he had a week before been seized with acute pain in the right ear; this was followed by rupture of the membrane, a discharge, rigors, high temperature; no head symptoms. He remained conscious until shortly before death, a week afterwards. Pus in the pleura and other parts. It is noticeable that infection took place from the ear recently inflamed, and *not* from the one in which the bone was extensively diseased.

In the following two cases a perforation had existed for longer periods, attended either continuously or at different times by a discharge from the ear.

Case 4.—On July 12, 1881, Mr. B., æt. 50, two months before, after slight pain in the left ear during a cold, became rather deaf on that side, and noticed a slight, thin, purulent discharge. There was a small slit-like perforation of the posterior section of the membrane, through which air could be passed freely. The hearing became fairly good so soon as the tympanic cavity was emptied. The loss of tissue was very small, and I thought it most likely that by emptying the tympanic cavity, which I taught him to do, and cleansing the ear with warm water, the perforation would probably heal.

He went to Paris, was induced to try some fluid (a mineral astringent) for the ear, which gave him great pain. This was followed by a rigor; he became comatose, and died in a few days.

Case 5.—In 1879 an unusually vigorous and healthy country gentleman for his years, 80, was attacked by acute pain in the right ear, followed by a purulent discharge and relief from the pain. He applied a few days later a solution containing a mineral astringent. This was at once followed by intense pain in the ear, which soon localised itself in the parietal region. The pain in this situation never left him. When I saw him, on the 12th December, three months after his illness began, there was a perforation in the anterior section of the membrane which was filled up with some granulations. The constant head pain gave him intense suffering and sleepless nights. The muscles of that side of the face were, though not paralysed, markedly affected. The pain continued for a month, when he suddenly fell off his chair in a state of insensibility. He never recovered consciousness and died on the following day. Cerebral abscess.

The other three cases are those in which the perforation had existed for many years and in which there was evidence of dead bone.

Case 6.—In 1874 a girl, æt. 14, with absence of both membranes, with discharge, after scarlet fever, absolute loss of hearing in left side, no exposed bone. On the right side a polypus filled the canal. This I removed; a small surface of exposed bone in the tympanum could be detected. When the local condition had become more healthy she learnt to adjust a pad of cotton wool, which protected the tympanum from the air and obtained a very fair hearing. She continued well for three years, when she had a slight shivering fit, increased temperature, coated tongue, and became drowsy and indifferent to what was going on, at no time, however, being insensible. After this state of things had continued for four or five days she gradually recovered and went about as usual. Two years after she had a similar, though less severe attack, which passed off. In June, 1882, the ear began to discharge again. The cavity of the tympanum became covered with exuberant granulations, and she was not able to do more than keep it cleansed with water. I saw her in June; she had a slight shiver, and some pain on the right side of the head, and was sent to bed.

The next night she had an attack of intense pain in the head; after this, increased temperature, constant head pains, partial insensibility, and other symptoms of cerebral abscess for over three weeks when she died. Thus, with exposed bone in the tympanum, she lived in good health, with the exception of the two threatening attacks referred to, for over twenty-one years. There was no especially exciting cause for either of these three illnesses. She had been unusually intelligent in managing the ear and alive to all the risks of any irritant application to the ear.

Case 7.—In 1879, a gentleman, æt. 45, who had occasional discharge since childhood from the left ear had noticed it increase for several months. It was, when I saw him, most profuse and occasionally slight bleeding from ear. For a fortnight he had at times, especially at night, pains on that side of the head. The canal of the ear was filled with a polypus. If this were pressed on one side with a probe a quantity of fœtid discharge escaped. I begged him to allow me to remove this at once and explained the reasons. He, however, preferred to go home into the country for two days and during this time he was advised not to have anything done. Five weeks later he had a rigor, soon afterwards became unconscious and died in a few days from meningitis.

No especial knowledge was wanted to suggest the removal of what was acting as a cork to prevent the egress of discharge from the tympanum, and I have only referred to this case to show how quickly fatal symptoms may come on if the treatment in ordinary use is deferred when the patient complains of pain in the head; pains which he has often learnt to describe as neuralgic, and treats accordingly. Instances of perforation with pus blocked up in this way are not at all unusual. I can recall to my mind numbers of them in which immediate relief has followed the removal of a growth which is very commonly connected with dead bone in the tympanum.

Case 8.—On the 29th May, 1879, Mast. F., æt. 15, one month previously, had an attack of acute pain followed within forty-eight hours by discharge. The note taken then was "tympanic membrane destroyed, granulations filling up cavity of tympanum, occasional severe headaches, inflamed bone." I saw him 3rd June, 24th July, 5th August, and on the 18th October, then the granulations had gone, no head pains. Not seen again until February, 1882, when I was sent for to see him in the country. He had been suffering intense pain

in head for four days, had three severe rigors, was quite sensible, temperature 102°; profuse sweating. Symptoms continued for three weeks. He became comatose and died. Cerebral abscess.

Thus for over two years he had no prominent symptoms or discomfort from ear. No recurrence of head pains between the first attack of inflammation which led to the rupture and the second attack like it which led to his death. A period of nearly three years.

I do not wish to run the risk of wearying the members of the Society by relating more cases. Those I have detailed are sufficient for my purpose. From a consideration of others which have come under my care, I should not, I think, be too hasty in drawing certain conclusions. That the subjects of perforations, when the bone is diseased, are in far greater peril of ulterior fatal complication than those in whom there is no evidence of diseased bone. It is not difficult to determine whether the bone is affected by an examination, for when the ear has been syringed, carefully dried and illuminated, exposed bone can frequently be detected by the probe. Even if this cannot be done, the appearance of exuberant bone granulations, taken in conjunction with the peculiar fœtor, will settle the point. As in many other fistulous openings there is generally an odour, but the bony fœtor is often unmistakeable. Again it must be remembered that a very large area of diseased bone in this situation is compatible with long life.

Many aged persons are now alive in this condition, which within my knowledge has in many instances existed for periods of fifteen years, and from the histories evidently since their childhood; they are now in fairly good health and have learned to manage their ear by cleanliness, by some sort of protection pad, and the occasional use of some mild vegetable astringent. That even when the bone is not diseased, the subjects of perforation are liable to influences which may shorten life. Thus more than once the entrance of sea-water into the perforation has been followed by inflammation and fatal pyæmia. I have already alluded to the occasionally irritating effects of mineral astringents altogether apart from the risk to life. Three times I have known inflammation causing facial paralysis induced by the use of a weak solution of nitrate of silver to a perforate tympanum, and, only so recently from the same cause as January, absolute deafness in the left ear of a man of sixty. Some persons will put almost anything into their ears that

may be recommended by a friend perhaps; and whilst many perforations apparently will bear anything, others are so highly sensitive to interference that even any form of artificial protection to the exposed tympanum cannot be tolerated, a protection which in many cases is of infinite service. Thus in estimating the probabilities of a long life for persons with perforation, their habitual discretion will form a very distinct element as to their chances. This consideration might well be borne in mind by insurance companies. Points suggested by the other cases are the very urgent necessity of removing without delay any growth that may prevent the egress of discharge from the tympanic cavity. The same observation will apply to a bony growth in the canal which prevents the escape of pus. The important bearing of head pains, whether occurring either at the commencement of the inflammation of the tympanum or at any later period. The importance if, in recent cases, very great profusion of the discharge continues for many days or weeks, and especially if attended by feelings of giddiness.

I have purposely omitted reference to cases in which the mastoid bone has been involved, and for which a perforation into these cells may become necessary, lest I should repeat observations which I have made in connection with this part of the subject, in a recent paper in the *Medico-Chirurgical Transactions* on "Diseases of the Mastoid Bone."

XLI.—*A Case of Morphœa in the Region of the First and Second Divisions of the Fifth Nerve, with Paralysis of the Intra-ocular Branches of the Third Nerve.* By E. Nettleship and Charles Higgens. *Read May* 11, 1883.

OUR reason for recording this case is the fact stated in the title, the coincidence of motor paralysis with the formation of patches of morphœa in the skin, both changes occurring in the same district.

The patient (Selina Y.), a married woman, now æt. 38, applied at St. Thomas's Hospital on November 11, 1880, because the pupil of her left eye was dilated and the sight of

the eye dim. She had been aware of these symptoms for about three months.

She was a small, spare, nervous woman, easily flushing up and perspiring very freely when at all excited. Her strength had been reduced by a recent confinement followed by a mammary abscess and by boils. She said she had suffered for many months from "ulceration of the womb," and Dr. Cory, who afterwards examined the uterus, suspected syphilis, but neither the patient nor her baby ever showed conclusive signs of that disease.

On examination of the affected (left) eye, the pupil was found to measure 7 mm. in diameter; it was motionless to light, but contracted a very little during efforts at accommodation and convergence. The accommodation was much weakened, but not entirely abolished, a convex lens of twelve inches focus being required to enable the eye to read small print at eight inches. There was no paralysis of any of the external muscles.* In the fellow eye (right) the pupil was barely half as wide (3 to 3·5 mm. in ordinary light), and acted perfectly both to light and accommodation; the accommodation was normal, small print being easily read without a glass at eight inches.

The ophthalmoscope revealed in the affected eye only some thickening of the sheaths of certain veins (chiefly those passing downwards), some dilatation of the veins and tortuosity of the arteries. Mr. Waren Tay, who saw the patient a few days later, thought that there were some minute changes at the yellow spot. The vessels of the other eye were perfectly normal.

The patient herself had not noticed anything amiss with the skin, but on the left temple (the same side as the affected eye), just above the zygoma, was a patch as large as a sixpence, having all the characters of morphœa, white, shining, firmer and stiffer than the surrounding skin, but neither raised nor depressed. There were similar patches just above the left *ala nasi* and on the left side of the upper lip. There were no patches on the forehead or scalp, but over the whole of the left forehead the skin was tighter and more polished than on the right side, and the hair was coming out from the anterior part of the left scalp. The patches on the temple,

* The following are the particulars as to refraction, acuteness of vision, and accommodation in each eye:—R. V., $\frac{2}{2}\frac{0}{0}$, slight astigmatism, reads 1 J., p. 20 cm. This near point represents accommodation equal to a lens of 5 dioptres or 8 inches focus.—L. V., $\frac{2}{3}\frac{0}{0}$, Hm. ·5 D.=$\frac{2}{2}\frac{0}{0}$, reads 14 J.; with +3 D. reads 1 J. well, p. 18 cm., r. 26 cm. This range represents accommodation equal to a lens of about 2 dioptres or 18 inches focus.

nose, and lip, remained white when the rest of the face was flushed. One of the veins on the left temple was larger than on the other side.

Returning to the affected eye. The pupil contracted, though not quite to the full extent, when eserine was dropped into the eye, and the accommodation was temporarily restored. The action of the eserine passed off as quickly as in a healthy eye, perhaps, more quickly, for the solution had to be used several times a day in order to maintain its effect.

The subsequent course of the case up to the present time has been shortly as follows:

The patient was under treatment at St. Thomas's Hospital for nearly a year, she then migrated to Guy's, where she has since remained under the care of Mr. Higgens. She has used either eserine or pilocarpine drops to the eye daily during almost the whole of this period (two years and a half), and she still finds it necessary to apply the drops at least once a day in order to keep the pupil small and the eye adapted for near vision. For some time the affected eye has appeared rather more prominent than the other. She has complained at times of pain on the affected side of the head, chiefly in connection with the patch on the temple; sometimes also at the inner angle of the eye, in the upper eyelid, and at a spot on the side of the nose. The hair of the anterior half of the scalp on the affected side (as far back as over the ear), thin on admission, is now almost entirely lost, and the skin has become like that of the same side of the forehead, thin, shining, and adherent. The eyebrows and eyelashes have not suffered. The patch of morphœa on the temple has not altered much, but the patches on the nose and upper lip have given place to atrophic shrinking sufficiently marked to cause decided asymmetry of the face. No change can be made out in the mucous membrane of the mouth, nor in the sensibility of the eyeball. Some eczema has occurred at intervals behind the left ear and on the left palm.

For several months past she has fancied that the opposite side of the face was threatened, because the pupil sometimes gets very large and she has a "peculiar feeling" or "numbness" in the eye and in the front of the scalp; and the hair on that side seems to be getting thin. Mr. Tay, who saw her a few days ago at the Skin Hospital, however, informs us that there was nothing definite to be made out, and we satisfied ourselves not long since that the accommodation of the eye on this side was perfect.

She has taken long courses of iodide of potassium with mercury, and of arsenic, and has also had cod-liver oil at intervals.

It will be observed that the affected parts of the skin in this case are supplied partly by the second and partly by the first division of the fifth nerve; the typical patches of morphœa on the temple, nose, and lip being in the region of the temporal and infra-orbital branches of the former division, the forehead and scalp in that of the supra-orbital. There is no affection of parts supplied by the nasal branch of the fifth, the tip of the nose and the eyeball, so far as its sensitive parts are concerned, being free.

We can offer no explanation of the connection between the paralysis of certain fibres of the third nerve and the morphœa changes in the region of the fifth. That the eye symptoms are due to paralysis of the third, not, as might perhaps be suggested, to spasm of the sympathetic, is proved by the state of the accommodation and by the fact that atropine caused the already dilated pupil to dilate much more.

Dr. Payne* has recorded a case of "Hemiatrophia facialis" in which the pupil was always larger on the affected side. We may also refer to certain rare cases of herpes of the fifth nerve with paralysis of motor nerves, *e.g.* the third or the facial on the same side. And we would suggest the careful examination of the eye in future cases of morphœa affecting the face.

P. S.—A patch has appeared over the lower part of the left scapula.

XLII.—*Cases of Nystagmus Infantilis.* By R. J. Lee, M.D. *Read May* 25, 1883.

WE not unfrequently meet with nystagmus in infants and young children. It is often the consequence of a fall, a blow on the head, a convulsive attack, or of some accident at birth. It may be congenital though this is rarely the case.

In infants it is usually due to central cerebral lesions. Effusion into the ventricles has been found so frequently after death as to have been thought the principal cause of it. Effusion, however, occurs so often without nystagmus as to make this doubtful.

* Payne, *Pathological Transactions*, xxxii, p. 306.

A boy was brought to me at the age of seven months with double nystagmus, the movements chiefly but not entirely horizontal. He died fifteen months after from diphtheria, and was under observation almost every week during this period.

The post-mortem examination was made by my friend Dr. Money, the Registrar of the Children's Hospital in Great Ormond Street, who has been so obliging as to prepare the brain for inspection, and to furnish me with notes of the conditions observed.

The child was delivered with forceps, and the right parieto-occipital region had been considerably flattened. He was three months old when cerebral symptoms were said to have first shown themselves, by a jerking movement of the head forward, by attacks of spasmodic stiffening of the arms, leg, and spine, by flushing of the face and quick rolling of the eyes. These attacks recurred every few minutes, the intervals being equal to their duration. There was no sign of pain, loss of consciousness, or crying. Strabismus of the left eye inwards was occasionally noticed, and latterly the left arm and leg were somewhat paralysed, lying still between the attacks, and being less affected spasmodically than the right arm and leg. He was improving in all respects when the diphtheritic attack occurred. He could control the nystagmus for about two minutes while he was watching any object held near him; and the intervals were longer between the attacks.

Ophthalmoscopic examinations were made at different times with negative results, except latterly when the left disc was reported to be somewhat smaller and paler than the right. The right cerebral hemisphere was found to be considerably flattened and wasted; the ventricle and descending cornu were distended with serum; the optic thalamus, corpus striatum, and optic tract were atrophied, and the convolutions forming the island of Reil were discoloured as though from hæmorrhagic effusion of old standing. The child was well developed, the circumference of the head at thirteen months was nineteen inches and a half. There was some account of two other children in a large family having shown tendency to hæmorrhage from the nose and to bruising easily,* but the hereditary history in other respects was good.

In bringing this case before you I entertain the hope by comparison of experience we may arrive at some conc regarding the value of nystagmus as an aid in diagnosis

* Mother's only brother is said to have died from he

For example, in the case of a boy, æt. 8½, nystagmus of both eyes was observed sixteen weeks after a fall, when he struck the left frontal region. The same evening he had convulsions and was insensible for several hours; for two days was semi-comatose, and then recovered. A week before I saw him he had a second convulsive attack and again recovered, complaining only of frontal headache, and had no cerebral symptoms except the nystagmus. For ten weeks he was under treatment, the nystagmus gradually diminishing.

Cases of a similar kind are frequently observed, and there are only one or two points which appear to require attention.

The movements of the eyes are sometimes rapid, so rapid as to be characterised by the term of vibratory oscillations rather than by any other, while sometimes the movements are quite different. If we watch one eye we notice that it turns inwards by a series of jerks, and then moves by one turn to its normal position, again to revolve in the same manner inwards. In the case of the oscillation, one would infer that the muscular forces acting on the eye were equally balanced but equally affected by tremor. In the latter case that there must be a partial paralysis of the muscles on one side of the globe and a strabismic effect produced in consequence.

I have no doubt but that the observations on miner's nystagmus in a recent number of *Reports of the Ophthalmological Society* by Dr. Ogilby will be remembered by some present. It appears that the position of the head determines this form of nystagmus, and the movements of the eyes cease when the head is held erect. I only mention this suggestively in support of the view that we have in nystagmus a test of central conditions of the same nature probably, but more delicate than the spasmodic movements of the larger muscles which are symptomatic of central lesions in infants and young children.

A partial description of the brain and spinal cord of C. K.

By Angel Money, M.D.

Aug. 7, 1883.—There is marked atrophy of the right cerebral hemisphere. This has attacked chiefly the temporo-sphenoidal lobe. At the time of the autopsy the wasting of the cerebral substance was so great that, owing to the distension of both lateral ventricles with clear pale fluid, a thin-walled cyst existed over the region of atrophy.

The brain and spinal cord were put into spirit for preservation and further study. It is to be regretted that chromic acid in some form was not used, because although undoubted changes exist in the crura cerebri, pons, medulla, and spinal cord, yet the use of carmine is utterly unable to bring out the areas of degeneration. But a one-per cent. solution of osmic acid has done much to supply the want; yet the discriminating property of carmine is so great and has been so lost by the prolonged immersion in spirit that it is impossible with logwood and osmic acid to completely fill its place.

My examination is unfortunately not yet completed. The case is of great importance and involves questions of actual new knowledge, so anything like hurry must be deprecated. In due time I hope to be able to give the results of a complete examination.

Topography of atrophied area of right hemisphere:

The posterior third of the third frontal convolution; the lower thirds of the ascending frontal and ascending parietal convolutions; the angular and supramarginal convolutions; the outer aspect of the occipital lobule; the first and second and part of the third temporo-sphenoidal convolutions; the lobules of the island of Reil. In fact, the whole of the right hemisphere except nearly all the frontal convolutions; the upper two thirds of the ascending frontal and ascending parietal; the parietal lobule; about the inner third of the occipital lobe and a narrow tract of the third temporo-sphenoidal convolution. This area is of a brownish colour and has a soft leathery feel.

Sections of any part show that vacuolations varying in size exist between its inner and outer walls. The largest of these is ten millimetres in one direction and three millimetres in another. The smallest being quite minute.

The centrum ovale (white matter) is therefore almost entirely destroyed over this wasted region.

The corpus striatum and optic thalamus are much atrophied; the crus cerebri is also narrower than the left crus; the pons on the right side looks smaller than the left; the right anterior pyramid is narrower and more slender, more picked out than the left anterior pyramid; there are bands of sclerosis both in the direct pyramidal tract on the right side, also of the left crossed pyramidal tract of usual characters. The facts anent the sclerosis were obtained with osmic acid; carmine failed to select the areas, no doubt owing to the prolonged action of the alcohol in which the specimens were kept. The crossed pyra-

midal tract can be traced in sections down to the lumbar enlargement; the direct is lost after the cervical enlargement has been passed. The left lobe of the cerebellum is smaller than the right, this wasting is well seen in the flocculus and on a general view of the parts.

The corpus callosum and other commissures seem well formed and symmetrical. The olfactory nerves seem equal. The right optic tract is a little more slender than the left, the left optic nerve is paler and a little smaller than the right. The third nerves seem equal. The other cranial nerves all seem symmetrical.

The wasted convolutions seem to have been properly developed, the outline of their markings is well maintained despite the atrophy. Nearly all the vessels of the base of the brain contained either a red or pale non-adherent clot. There is no disease of the vascular walls anywhere.

The meninges showed no signs of past inflammation. The child died of diphtheria with lobar pneumonia of the right upper lobe.

In the viscera nothing of import was observed, nor was any atrophy of left eye observed, though no measurements were made. The cranium and orbital plates showed some thickening at the most usual sites, said to be indicative of syphilis; there was distinct asymmetry of the calvaria, a diminution of the fulness and spread of the right side, especially in the posterior part.

There is a marked history of hæmophilia in the family. And a strong presumption of congenital syphilis. The patient was born with the aid of instruments and had no intelligence from the time of birth onwards.

Microscopical examination as yet incomplete.

Section of pons at level of the superficial origin of the fifth nerve presents a notable difference between the two halves; the normal "streaky" condition in which transverse and longitudinal fibres are seen in irregular layers one on the other has a different appearance on the two sides; the right looks smaller than the left generally, and the scattered *pyramidal tracts* are brownish on the left, but pale, whitish, and translucent on the right. Sections placed in osmic acid blacken the pyramidal brownish tinted tracts on the left side, but leave the whitish streaks on the right side intact. The superior cerebellar peduncle on both sides are blackened equally with the osmic acid.

Parrot and Flechsig have shown that at birth there is

almost no differentiation of the cerebral matter into gray and white. Sections of brain from the occipital lobe of the right side stain deeply with osmic acid, showing that the development of the medullary fibres has not been arrested by the enormous damage to which it is believed the atrophy was due. The perivascular spaces are enlarged and granules of yellowish and rusty coloured pigment are seen in these dilated areas. Small presumably nerve-cells are seen of rounded and fusiform shapes. No pyramidal ones of any size. The brownish tint of the atrophied area is no doubt due to these hæmatoidin granules.

XLIII.—*Small Goitre, producing great difficulty of breathing on exertion: Excision: Recovery and complete relief.* By Arthur E. Barker. *Read May* 25, 1883.

A. M., æt. 21, a domestic servant, was admitted into University College Hospital under my care on August 15, 1881. She stated that when fourteen years of age she first noticed a swelling in her neck, which increased rather slowly for two years, when she began to suffer from difficulty in breathing. She lived then at Devizes, and was not exclusively a water-drinker. Three years ago she went under treatment at the Throat Hospital in Golden Square. First about a tablespoonful of dark brown fluid was drawn off with a trochar from the goitre, but this was not followed up by any injection, and the wound was closed. Then leeches were applied. Thirdly, the tumour was injected occasionally with Tr. Iod. for three months. Fourthly, a seton was passed through it, and left there for fourteen days, but had then to be removed on account of constant vomiting. The use of the seton reduced the size of the tumour, and gave relief to her breathing. After this she went to Uxbridge, where the swelling soon regained its original size and gathered. She then went to St. Saviour's Cancer Hospital in Osnaburg Street, where she was treated with electricity for some months without any decrease in the size of the tumour. Ever since then

the swelling has been gaining size. There is no history of goitre in her family; her parents are Wiltshire people.

Present state.—There is a regular oval swelling on the front of the neck over the thyroid gland, three inches in transverse and two in vertical diameter; its edges are well defined. This mass extends downwards to the top of the sternum, and upwards to the margin of the thyroid cartilage; it is firm and elastic, but does not fluctuate, and is fairly moveable on the parts underneath. There are dilated veins over its surface, and marks of several punctures. In the act of swallowing the mass moves upwards with the larynx. There is some difficulty of breathing and harshness of breath sounds, both increased much by exertion. She has come into hospital because she is prevented from following her employment on account of the difficulty in breathing on exertion, with aching sensation on upper side of jaw on both sides. There is no exophthalmos. There is a faint mitral murmur. Pulsation in tumour is only felt towards the right edge, and there is no pulsation nor thrill in the veins of the neck. Over the goitre the neck measures 14½ inches, above it 12 inches. Dr. Poore kindly examined the state of the vocal cords for me, and reports as follows:—"Movement of vocal cords normal; anterior wall of trachea immediately below cords slightly prominent. Pressure on the goitre has no effect upon the movements of the cords."

It is to be noted, however, that slight pressure upon the tumour produced considerable distress of breathing, which at other times, according to the patient's account, must have been very acute if not dangerous. No paroxysms of dyspnœa were observed during the stay in hospital. As the patient was very anxious for relief, and other means had failed after prolonged treatment in special hospitals, I proposed to remove the tumour, to which the patient willingly assented.

Operation (August 24, 1881).—Under ether and with careful Listerian precautions as to aseptic treatment, I made an incision in the middle line over the tumour, about 4 inches long, from the lower border of the cricoid cartilage downwards. Then dividing the fascia on a director I reflected it with the skin from the right side of the tumour first, and then worked towards the left. This part of the dissection was mostly effected with blunt instruments. Several vessels were met with, and were ligatured by passing an aneurism needle under them, then threading this with carbolised silk or catgut, and on its withdrawal tying in two places and cutting

between. Then the sterno-hyoid and thyroid muscles were reflected, and the superior thyroid artery was exposed and ligatured by the double method. The enucleation was then continued cautiously, and the inferior thyroid artery was tied. The right lobe being now tolerably clear was lifted out of its bed, when it was found that the left lobe and isthmus appeared quite normal. I therefore cut through this and so completed the operation, proceeding very cautiously throughout, as I was anxious not to have anything obscured by bleeding, and to recognise all the important structures around. As a matter of fact, the hospital notes record that "at no time was the wound full of blood." One of the students counted the number of ligatures applied, and made the following note:—There were secured by torsion 7, by clamping 5, by double silk 8, by single silk 9, by catgut 6. Most of these vessels were small, but still required attention, which, though it delayed somewhat, made the operation much safer and much less difficult. A drain-tube was now placed in the wound, which was closed with six silver-wire sutures and dressed with gauze in the usual way.

The next morning the patient felt very well, but as the gauze dressing had become very loose round the neck during the night, it was removed without the spray, and was replaced by salicylic wool.

On the 30th the wound was again dressed and the stitches removed. Only a little moisture was found on the wool, and all was healing.

On September 3 the drain-tube was removed, the rest of the wound having healed almost by first intention. None of the ligatures appeared or came away from first to last, and the patient left the hospital quite well on September 14. The temperature only once reached 100.

On the patient's return from Eastbourne she was found to be quite relieved of the distress in breathing before complained of, and, but for the amenorrhœa, might have been said to have been in perfect health.

Since then she has frequently given me an opportunity of examining the wound. For some months this showed a tendency to develop keloid induration to a considerable extent, but the retrogressive changes usually seen in the latter are now almost completed, twenty-one months after operation. Several times she has called my attention to some tenderness of a spot of skin over the right clavicle, which I can only suppose due to perhaps a little neuritis following injury, per-

haps ligature of a twig of a cutaneous nerve. But ever since the operation I have carefully watched for any of the ligatures, but not one of the seventeen silk or six catgut has ever come away or given evidence of its presence unless the tenderness referred to be held to be such.

Remarks.—I have ventured to bring forward this case as illustrating two points which appear to me to deserve more particular attention than has perhaps been hitherto given to them. Firstly, that comparatively small goitres may give rise to great distress. Secondly, the quiescence of silk ligatures in the tissues of the body when introduced with the strictest precautions as to purity.

The first of these points has not altogether escaped the notice of several surgeons and physicians, and it will be in the memory of some present that in a debate in this room some years ago, cases were alluded to by various speakers in which comparatively small bronchoceles had given rise to very severe and even fatal dyspnœa. Still I venture to think we want more information upon the subject, and more recorded cases to guide us in treatment. In the present instance, the distress to the patient when she was quiet was not very great, though considerable stridor was noticeable, but she was completely debarred from any unusual exertion by the embarrassment to the breathing induced. This was described as very acute at times and had obliged her to give up her employment as a domestic servant. And yet the offending tumour in this case was only a flattened ovoid three by two inches in size.

When we bear in mind the enormous bronchoceles often seen which produce little or no dyspnœa, it seems remarkable that such a small one should give any trouble. The explanation no doubt lies in the relation of the tumour to the trachea or inferior laryngeal nerve in each case as well as in the varying strength of the fascial and other structures covering it. The discussion alluded to above arose upon a communication by W. B. Pitts, resident house surgeon to St. Thomas's Hospital, to the Pathological Society on November 15, 1881, on "A Case of Bronchocele in which the Thyroid was removed during an attack of Dyspnœa." In this instance the tumour only weighed five ounces. Mr. Pitts also states in his paper that within the twelve months preceding there had been no less than three deaths from pressure of bronchoceles upon the trachea at St. Thomas's Hospital. These deaths were all the result of acute attacks of dyspnœa coming on apparently with-

out warning at night. Similar cases were alluded to in the discussion following on this paper, and I have since heard of others still unrecorded.

The second point illustrated by this case is one which appears of equal if not greater interest. The question whether in the ligature of arteries carbolised catgut or carbolised silk should be used is one upon which surgeons are not yet agreed. But there are few who would not of the two prefer silk, owing to the ease with which it can be manipulated and tied, its great strength, and the security of the knot when made, provided only that it can be shown that it will remain inert in the tissues until absorbed. Ovariotomists, after a large experience of the silk ligature for ovarian pedicles, tell us that they have no reason to be dissatisfied with it in this respect; but in general surgery we only occasionally hear of careful observations of the behaviour of silk in wounds which could be observed for long periods. We constantly experience and hear of defects in the carbolised catgut ligature just as we have heard of silk ligature being cast off after varying periods have elapsed. It is then, perhaps, open to question whether, with equal precautions as to its introduction into wounds, with perfect asepticity, it would not after an extended experience be found that in the long run silk was generally as satisfactory as catgut for ligature. This question can only be decided by the observation of a large number of cases over extended periods; but the above case, it is hoped, may prove suggestive as far as it goes.

XLIV.—*Ulceration at the Pylorus: Perforation: Death from Peritonitis: Pain at the Stomach not aggravated, but often relieved by food.* By S. O. Habershon, M.D. *Read May* 25, 1883.

A GENTLEMAN, æt. 58, suffered some years previously from ague, from which he soon recovered. In 1881 he had severe hæmorrhage from internal piles, and he became completely blanched. The application of astringents, gentle action from the bowels, and chalybeates, gradually relieved this state, and his health was completely restored. In April, 1882, he began to suffer from pain at the stomach and from

vomiting; the attacks of pain were very severe, but occurred irregularly, and the pain was not increased by food, but, on the contrary, frequently relieved by it. Neither growth nor hardness could be felt in the abdomen, and there had not been any vomiting of blood nor melæna. The urine was healthy, and at the heart there was a slight systolic bruit. I saw him in May, and afterwards in consultation with Dr. Archibald. On June 1st he still had severe pain; it was relieved by opium and by ether, and by change of air. No organic disease could be detected, but the attacks of pain generally exhausted the strength; sometimes there were considerable intervals of relief. A visit to Folkestone was attended with great advantage to his health; the pain, however, soon returned. In August, during my absence from town, Dr. Hermann Weber recommended a visit to Carlsbad; this was undertaken, but without benefit; on his return, however, a regulated diet with belladonna and alkalies lessened the severity of the symptoms, and he was able to take nourishment and to take outdoor exercise.

On January 2, after luncheon, intense pain in the abdomen came on followed by collapse. At 6 P.M. when I saw him, the hands were bathed in cold, clammy perspiration, there was vomiting of fluid resembling coffee grounds, intense abdominal pain, with tympanitis and tenseness of the abdominal muscles; the pulse was failing, but the mind was perfectly clear; the pain came on at the region of the cæcum towards the median line, but afterwards extended to the whole abdomen. The patient sank about 4 o'clock on the morning of the 3rd of January. On the following day a post-mortem examination was made by Dr. Goodhart, and the following is his report:

"On opening the abdomen the omentum was found somewhat matted up to the left side, and covered with lymph of soft consistence and of the colour of pus; an old adhesion in the shape of a rounded cord ran from the lower part of the omentum to the sigmoid flexure; but this had not led to any abnormal position of the viscera. The peritoneal cavity contained a quantity of brown-coloured liquid, smelling like the contents of the stomach, and, indeed, it was evidently fluid which had escaped from the stomach. The intestinal coils were followed up, and nothing was found wrong with them. The stomach was moderately distended, and on passing to the portal fissure it was adherent to the under surface of the liver by fresh lymph. The adhesions, when separated, revealed a perforation of the coats of the viscus, near, and as it afterwards proved, at the pylorus. Brown fluid, like that in the

peritoneal cavity, came from the stomach freely now that the adhesions were disturbed. When the parts were removed and the stomach opened, it was found that, replacing the pyloric ring, there was an annular ulcer occupying three fourths of the circle. The ulcer was deep, had thickened edges, and was of an hour-glass form. The contraction in the centre appeared to be a part which had healed, so that now the posterior surface consisted of two ulcers, the lower one the size of a threepenny piece, the upper one the size of a sixpence; this one was continuous with a ragged ulcer in the anterior wall, which allowed the passage of the index finger. It had been covered in by the neck of the gall-bladder, which had been adherent to its edges, and formed a granulating surface on the floor of the ulcer; but the adhesions had given way, and hence the extravasation, peritonitis and death. The gall-bladder was thickened beneath this ulcerated surface, but was not otherwise affected.

"The stomach, except for the ulcer, was healthy; the pylorus was puckered from the ulceration, but the coats of the stomach were not thickened materially. The stomach contained black material, like altered blood. The vena portæ and common duct passed behind the ulcer, and were not implicated. The floor of the ulcer was fibrous, and gave no evidence of any new growth, but behind the stomach was one large fleshy gland, which gave off a milky juice, and looked suspicious, but when examined afterwards by the microscope it was found to be a swollen, inflamed gland, and was clearly due to the peritoneal inflammation."

There was considerable obscurity in the diagnosis of this case, for although it was evident that the malady was connected with the stomach, the precise form of complaint was not made out. There had never been any hæmorrhage from the stomach, the pain was very irregular in its character, it was not increased by food, and was often relieved by it. There was no decided tenderness at the stomach. The daughter of the patient told me that sometimes when in severe pain he would partake of a meal and directly afterwards say that the food had done him good and relieved the pain. The absence of some of these characteristic symptoms of gastric ulcer led me to think that there was malignant disease behind the stomach rather than ulcerative disease of the stomach itself. Dr. Archibald has kindly favoured me with the following observation as to the symptoms, he writes: "When I first saw Mr. — he merely complained of severe attacks of retching; a few days after-

wards there was pain previous to the retching. Food relieved this pain, but later on food seemed not to produce any influence on the pain whatever. For some weeks before he died food again relieved it. At *no time* during his illness did food *aggravate* this pain. It was most variable as to the time of seizing him; sometimes he would have it in the morning, at other times not until the evening; it would last for an hour or two, sometimes for several hours, and again he would only suffer from it on alternate days. I often remarked that after returning home from a drive the jolting seemed to have caused an increase of pain."

It is of great clinical interest to find ulceration of the stomach of a chronic character and extending to a fatal result from perforation without one of the most characteristic symptoms of gastric ulcer, namely, pain *increased by food.* The question arises whether this was due to the position of the ulcer or to some other cause. Pain in gastric ulcer ceases sometimes from the healing of an ulcer, sometimes from the congestion being relieved by hæmorrhage, again, from the nerves becoming divided by sloughing; it is modified by mere position of the patient; but in the case before us there was no evidence of hæmorrhage, nor was there any destruction of the nerve connections. The ulcer was situated *at* the pylorus, and at first it seemed doubtful whether it was on the duodenal or on the gastric side, but I think that Dr. Goodhart correctly placed it at the pylorus itself; the ulcer was divided into two portions by a central contraction, as if there had been a healing process, or the ulceration may have been double. The base of the ulcer was formed by the neck of the gall-bladder, and the walls of the gall-bladder were thickened. It was at this part that perforation had taken place. It is probable that the situation of the ulcer had to do with the absence of pain, and that when food was taken the pylorus at first contracted and the pain ceased; still it must be confessed that the vomiting so generally seen in simple pyloric obstruction was never present, and the extent of the ulceration probably prevented this complete contraction at the pylorus. Again, could the varying size of the gall-bladder, whose neck formed the base of the ulcer, modify the pain? I think not, but I am disposed to believe that the site of the ulcer at the pylorus and the varying contraction of the part were the causes of the peculiarity in the symptoms, and that these circumstances may account for the pain being relieved rather than aggravated by food.

XLV.—*Sebaceous or Dermoid Cyst of the Tongue: Removal by Submental Incision: Cure.* By Arthur E. Barker. *Read June* 1, 1883.

THE following example of sebaceous cyst embedded in the tongue appears to deserve to be recorded on account of its rarity, as well as from the interest attaching to its peculiar situation from a histogenic point of view.

Mrs. L., æt. 28, a strong, healthy-looking woman, was admitted into University College Hospital under my care on August 9, 1882, for the removal of a tumour seated in the body of the tongue. About seven years ago she had noticed a pain in her mouth under the tongue, with difficulty in swallowing. The pain began to diminish in two months, but a swelling was then noticed in the same situation which has been increasing ever since. On admission this swelling is thus described in the "Hospital Notes," no change having taken place in it during the three months of the patient's attendance as an out-patient, before she made up her mind for operation. "It commences just behind the *symphysis menti* in the middle line, and thrusts the mucous membrane forwards so as to make an interval between the root of the tongue and the jaw of about an inch broad, while it projects beneath the bone for about an inch and a quarter, giving the patient the appearance of having a very full "double chin." The skin, however, is here perfectly normal and is not attached in the slightest to the tumour. The whole tongue is thrust upwards considerably by the swelling, and its dorsum almost rests against the hard palate; this condition giving rise to much thickness of speech. The mucous membrane stretched over it anteriorly is thinned and is marked by some large veins. The tumour fluctuates distinctly over its whole surface, but shows no trace of inflammation anywhere, and is quite painless. It gives rise, however, to considerable inconvenience in speaking and swallowing, and is increasing in size." Puncture with a grooved needle brought away a drop of white pasty matter, which was found under the microscope to present all the characters of sebaceous secretion. On August 12, 1882, I removed the tumour as follows:—A straight incision was made in the middle line from the *symphysis menti* for about two and a half inches downwards. This dividing the skin and raphé between the mylohyoid muscles gave access to the sac of the tumour, which

was at once recognised between the somewhat separated genio-hyoid muscles. This sac was pale grey in colour, tough in texture, and easily detached from its surroundings with blunt instruments, aided by an occasional snip with blunt-pointed scissors. By putting considerable traction upon it by grasping its lower end with the fingers and by carefully dissecting close to its surface, I was able to enucleate it without difficulty and without rupturing its walls. It appeared rather firmly adherent in the neighbourhood of the body of the hyoid bone. Very little blood was lost, only one tiny arterial twig requiring to be pinched. On passing the forefinger into the resulting large cavity it was found to lie directly between the two genio-hyo-glossi muscles in the body of the tongue, and to be only separated from another finger passed into the mouth by the thick dorsal mucous coverings of the organ.

The skin wound was now brought together with four silver sutures, a short drain-tube having been inserted. All antiseptic precautions short of the spray were observed, and finally, before closure the cavity was sponged out with carbolic solution 1 per cent. A pad of salicylated wool secured by a bandage was the only dressing. On the 13th I dressed the wound; there was no discharge, and it looked quite well. On the 15th it was healed by first intention except where the tube lay, from which there was only a trace of sticky lymph exuding. The tube and stitches were therefore removed and a strip of plaster applied for support with the same dressing as before. The patient left the hospital on the 18th with the wound quite healed; she had had no trouble from beginning to end.

On removal entire, and before being opened, the cyst presented the appearance and consistence of a fresh sausage; it was soft as though filled with porridge; it measured about three inches long by one and a half inches broad at its lower and broader end, the whole being somewhat reniform, as seen in a sketch made by the Registrar at the time. The sac itself (exhibited) consisted of firm fibrous tissue covered by some loose areolar material. Its lining membrane was white, wrinkled, and presented the appearance of cutaneous epithelium. The contents of the cyst were thick like soft pale peas porridge, and smelt somewhat sour, but contained no organisms. Microscopically they were seen to consist of masses of epithelial scales, many in a state of fatty degeneration with globules of oil and fatty débris, also large crystals of cholesterin in abundance.

As to the nature of this cyst there can I think be no ques-

tion. It is a sebaceous or dermoid structure produced by the infolding in the middle line during the embryonic state of some of the elements of the epiblast which have later on developed into a rudimentary skin follicle without a duct, the consequence being an accumulation of secretion within to a large extent. It is interesting from its situation, such sebaceous tumours being of extreme rarity in the tongue. I have only seen one other similar to this. It was seated in exactly the same position, between the genio-hyo-glossi muscles, had identically the same naked-eye appearances and the same contents. As it was not so large as in the present instance I was able to dissect it out from within the mouth, the woman being an excellent patient. Here, too, the cavity in the body of the tongue healed rapidly without suppuration, though a large one, and the patient was soon well.

In further proof of the small share of notice which these sebaceous or dermoid cysts of the tongue have attracted in spite of the interest attaching to their genesis and treatment, I may, perhaps, mention the fact that, after a very careful search, I have only been able to find sixteen cases, in addition to the two now recorded, in which they have been actually dealt with by surgeons. There are, indeed, allusions here and there to ranulæ containing pasty material among the older authors, as Heister* Petrus de Marchetti,† and Benj. Bell.‡ But other writers who have paid particular attention to dermoid cysts in general, as, for instance, Lebert§ and Lawrence,‖ do not even allude to their existence in the tongue. This is the more remarkable as ranulæ and their contents were the object of much study and analysis many years ago.

As I have been at considerable trouble in collecting the sixteen cases alluded to, I have ventured to append references to the records of each to save trouble to any member of the Society who may feel interested in the study of this subject. To the cases themselves I need only allude very briefly.

They illustrate in the first place that these sebaceous or dermoid cysts may occupy three different positions in relation to the tongue. 1. They may be unilateral, *i.e.* may be seated between the genio-hyo-glossus muscle and the mylohyoid on one side or the other. 2. They may be central, *i.e.* may lie

* *Gen. Syst. Surg.*, 1753, vol. i, p. 466.
† *Observat. Med.-Chir.*, 1665, Obs. xxxi, p. 73.
‡ *Bell's Surgery*, 1801, 7th ed., vol. v, p. 88.
§ *Mem. de la Soc. de Biologie*, 1852, p. 203.
‖ *Lond. Med. Gaz.*, 1838, vol. xxi, p. 471.

between the genio-hyo-glossi muscles. 3. They may be bilateral, between the mylohyoid muscle and the latter.

Again, the contents may vary; these may consist of typical soft sebaceous material, either odourless or intensely fœtid, of hard, suet-like sebum, with embedded hairs, or perhaps even teeth, as in one case mentioned by Meckel, alluded to by Lebert (loc. cit.) but not carefully described. The investing tissue is always tough and fibrous, with a smooth, pale lining membrane, and is only loosely attached to the surrounding structures. The skin beneath the jaw has in no case shown any evidence of attachment to the tumour, which besides appears always to lie above the mylo-hyoid muscle. The mucous membrane of the mouth has always appeared normal over the tumours.

The age of the patients affected is remarkable, seeing that these cysts must I think be regarded as originally congenital structures. Where the age is stated it is found in most cases that the tumours appeared after the patient had reached maturity, and in Cruveilhier's case in a man aged sixty-two. But the same late appearance of similar cysts elsewhere is also seen. The usual time for their appearance has been between puberty and thirty years of age.

As regards the treatment various methods have been tried. These cysts have been punctured and evacuated, but only to fill and become troublesome again. They have been laid freely open, emptied, and then plugged with lint, in the hope that the resulting suppuration would destroy the secreting surface. But this treatment, although followed in some cases by success, is tedious, and not without risk from extension of the inflammation to the deeper structures about the root of the tongue, as seen in some of the recorded cases. Again, the cysts have been dissected out cleanly from their bed, either with or without preliminary puncture. From an examination of Mr. Hulke's and Linhart's two cases and that of Denonvilliers', together with experience in two cases in my own practice, I would without hesitation give the preference to complete enucleation without opening the cyst. The operation is an easy one, whether performed from the mouth as in my first case or from under the jaw as in that now recorded, and proved so also in Linhart's, Denonvilliers', and Hulke's cases. As long as there has been no inflammation about the bed of the cyst it has but a very loose areolar attachment to surrounding parts, and may be easily dissected out almost entirely with blunt instruments. But if it have been previously

opened and have inflamed there may be tough adhesion to its bed, giving rise to much difficulty in enucleating cleanly and also rendering the chance of hæmorrhage and suppuration greater. The latter was very trifling in all the cases where enucleation has been done as a first operation, and would, I believe, always be slight if the surgeon kept close to the sac wall and used blunt instruments, or at the most, scissors to snip possible attachments. Sir W. Fergusson's, Denonvilliers' cases, and that now recorded, appear to be the only ones in which an incision beneath the jaw has been necessary; in my own this did not in any way add to the danger, but I think rather diminished it, as the wound was in a position in which it could be kept quite aseptic with ease and did not communicate with the mouth. When the cysts are in the mid-line and large I should prefer the vertical incision in the skin from the chin downwards, as in the case now given, to that adopted by Denonvillier's, which ran parallel to the lower jaw and about a finger's breadth below it. My own incision gave complete access to the whole tumour and leaves, as may be seen in the patient exhibited, but little mark. But no doubt by far the largest number of these tumours could be removed from the mouth while small, and without any submental operation.

The references to recorded cases are as follows:

Five cases mentioned by Mr. Hulke in a short report on one of them with history. *Med. Times and Gaz.*, 1862, December 13th.

One by Pech. *Schmidt's Jahrb.*, vol. 6, p. 222.

Two cases operated on by Linhart. *Gaz. Hebdom.*, 1857, p. 134; 1858, p. 502.

Two cases operated on by Denonvilliers. *Archiv Gen. de Médecine*, series vi, t. 10, p. 27.

One case dissected after death by Cruveilhier. *Bull. de la Soc. Anatomique*, 1862, p. 43.

Two cases operated on by Mr. Bryant. *Surgery*, 3rd ed., vol. i, p. 518.

Two cases operated on by Sir W. Fergusson. *System of Surgery*, 5th ed., p. 518.

One case operated on by Buchanan. *Glasgow Med. Journ.*, 1882, March, p. 212.

Two mentioned above by author.

XLVI.—*Cases of Stretching of the Facial Nerve.* By J. Rickman Godlee, M.S. *Read June* 1, 1883.

In the fourteenth volume of the *Transactions* of this Society, at p. 44, there is a paper by Dr. W. Allen Sturge and myself reporting a case of *Tic Convulsif*, for the cure of which stretching of the facial nerve was practised. The operation, at the time our paper was written, had been performed about four months, and we were then able to give a very favorable report, but even at that comparatively early period we had noticed (although the patient herself was quite unaware of it) the very slightest tremor in some of the fibres of the orbicularis oris. She remained, however, practically well for nearly nine months after the operation, and although on one or two occasions conscious of a slight return of the twitching, had almost reached the point of forgetting it, when on April 29, 1881, she was very much affected by a severe nervous shock (a man, who had forced his way into her house under false pretences, suddenly declaring himself a bailiff who had come to distrain the property of a lady who was living with her). She said that immediately the whole of her face became violently convulsed; and though with rest and tonic medicines the spasm disappeared more or less for some time afterwards, still it gradually increased until it had regained all its former intensity. Her general health varies, being sometimes very good, at others rather indefinitely poor; she still feels a painful spot at times near the top of her head at a part where, years ago, she received a severe injury; and she suffers pretty constantly from neuralgic pains of varying intensity in different places, but principally in the position of the right supra-orbital nerve, for which she obtains most relief (out of all the drugs and external applications I have suggested) from the use of menthol paste. She remembers with gratitude the period of respite she enjoyed, and is very painfully conscious of her present trouble, but is unwilling to purchase relief from the complaint by submitting to a permanent paralysis of the affected side of her face; not so much, I believe, from a dread of the consequent discomfort (which she allows was insignificant) as from a dislike of the very obvious nature of the deformity.

At the end of that paper I mentioned, in an appendix, that I had stretched the facial nerve in another patient, and the

man was shown at a late meeting of the Society in the session 1880-1881. I now bring forward the complete account of this case, and am also able to add a pretty inclusive table of all the reported instances of the operation, a study of which will enable us to arrive at a conclusion with regard to the present state of knowledge on the subject.

Henri P., a cellarman, æt. 36, admitted into University College Hospital on July 24, 1880; noticed three years previously a spasmodic closure of both eyes, lasting five or ten minutes, and coming on at intervals of an hour, without assignable cause. It gradually increased from that time, the left side being always the most affected. The twitching was made worse by exposure to a bright light and to a cold wind, or by exercise and excitement, so that it was relieved by rest, by keeping in the dark, and by sleep. He was not kept awake at night, but it was noticed that when a candle was passed close to his face during sleep some slight twitching occurred. He had once been kept in a dark room for fourteen days (I believe with blue-glass windows) and had then been completely relieved for a time. Still, a careful examination of all possible sources of reflex irritation—ear, eye, &c.—by most competent observers, revealed only some stumps of teeth (all of which have, I regret to say, not yet been removed) and a little tenderness over the left supra-orbital nerve.

He had had a gonorrhœa in 1862, but there was no history of syphilis, nor any sign of it about him; still he was treated thoroughly with anti-syphilitic medicines on the chance of this disease being at the bottom of the trouble, as well as with all other imaginable remedies. My friend, Dr. de Watteville, who kindly handed the case on to me, had also applied electricity to him after the most approved methods, but all had been as unavailing as the treatment by nerve stretching afterwards proved to be.

His face presented a curious and somewhat grotesque appearance, the eyes being usually more or less closed, the angles of the mouth drawn downwards and outwards, and the whole head bent forwards. At times by a strong effort of will he was able to stop the spasms temporarily, and the same effect could be produced by exerting pressure behind the condyles of the jaw, but the result was always to cause a more severe attack directly afterwards.

The history and the symptoms of the case are thus seen to be very like those of most others which have already been reported, with the exception that an affection of both sides

appears to be rare. But even here, although the double affection led us to suspect a more extensive lesion than usual, the facials only appeared to suffer, which I suppose may be taken to support the view put forward in the paper by Dr. Sturge and myself, that the mischief, whatever it is, lies somewhere in the region of the medulla oblongata. For any other centres for the facial nerve of which we have any cognizance are either upon the surface of the brain, round the upper end of the fissure of Rolando, or possibly in the region of the corpora striata. Now, it is difficult to conceive of any affection which could exert an influence on both centres, either on the surface of the brain or in the great central ganglia, being so circumscribed and so symmetrical as to affect both sides so nearly equally and yet leave parts belonging to the same physiological system untouched. On the other hand, it is quite comprehensible that a comparatively small lesion in the medulla might exert an influence on both nerves almost or quite equally. I am afraid that little or nothing is accurately known about the pathology of the affection, except in those cases where a very definite lesion, such as an aneurysm of the vertebral artery* or other severe intracranial mischief, has been found post mortem; these facts are therefore only brought forward as tending to support the views indicated by Dr. Sturge in our paper.

I was loth, however, to operate in this case, thinking that the double affection implied, at all events, a more profound lesion than in the last; he was therefore kept under observation for some time. He was admitted into University College Hospital, and whilst there, as he was kept perfectly quiet, he apparently improved, and in fact said that he was better than he had been for long. It was ascertained that he was not suffering from any other serious complaint, and that his secretions were normal. He was then sent to Walton for a time. But after watching him from July 24 till the early part of October, it was decided that the left supra-orbital nerve should be divided, as it was always, as has been said, somewhat tender to pressure. This was done subcutaneously on October 13. For two days afterwards he suffered from rather severe neuralgic pains on the left side of the head which quickly passed away. He considered, at first, that the twitching on the other side was a little diminished; but this was the only effect noticed, and if it did actually occur, the improvement was only temporary. Accordingly, it was decided to give nerve-stretching

* Schultze, *Virchow's Archiv*, Bd. 65, S. 385.

a trial; his condition was very miserable, and he considered himself quite unable to follow his calling. So, on Nov. 10, the left facial was stretched. It is needless to dwell upon the steps of the operation, which have been carefully described before. It must only be mentioned that he took chloroform very badly, and caused us some anxiety by stopping breathing during the process; but beyond this the operation was accomplished without any material difficulty. The result, as in my first case, was to cause complete paralysis of that side of the face, and for three days considerable neuralgic pain in the face and the pinna of the ear. Two days afterwards, some very fine tremors were observed on the left side of the middle line about the mouth (though they were not seen on subsequent occasions), the nervous influence for the production of which must have been transmitted through the opposite facial. Another point was noticed which, I believe, is not unusual in cases of facial paralysis, but for which I have not seen any explanation offered; viz. that when an attempt was made to close the eyes, the left eyelid moved downwards to a considerable extent. This does not seem explicable on the theory that the lids are moved by the movements of the eyeball, for in closing the eye it is well known that the ball rolls upwards. The only explanation which I can offer is that when the relaxation of the levator palpebræ occurs, the lid is drawn down by the tonicity of the orbicularis, the same tonicity which, in a child or young adult, prevents any marked inequality of the face at rest when the facial is paralysed; for it is scarcely conceivable that the weight of the eyelid should be sufficient to produce the effect, which it may be observed takes place whether the patient be in the erect posture or recumbent.

He left the hospital on November 22. The wound had not completely healed till the end of six weeks after the operation.

On January 15, 1882, a feeble contraction of the muscles was obtained when a current was passed through the nerve. On January 29 a little deepening of the wrinkles about the mouth indicated, it was thought, a slight return of power; but it was not till February 5 (twelve weeks and three days after the stretching) that any return of voluntary movements about the mouth was noticed. Meantime a fine tremor of the orbicularis palpebrarum was noticed at times.

On February 9 the eye could be completely closed, the fine tremors were diminishing.

By February 23 it was noticed that the left eye occasionally

closed spasmodically, sympathetically with the right, but no coarse twitching was noticed.

By March 9 the paralysis had much improved, and the fine tremors seemed to have disappeared.

On March 23 the patient reported that though during some mild weather he had been almost well as far as the left side was concerned, the right remained as before. A short time previously some cold winds had set in, and then the left eye became spasmodically closed, though there was no twitching in other parts of the face.

On March 24 the right facial was stretched. The sequence of events was very similar to that after the first stretching; but this time there was no difficulty with the anæsthetic, and the wound healed in about ten days.

I may briefly sum up the end of the case by saying that as the paralysis disappeared the twitching gradually returned, first on one side and then on the other; and that in the course of a few months the condition of things was in no way relieved by the various operations that had been undertaken. There was not, as in the last case, a nervous shock to account for the return of the twitchings; but it appeared that the spasms were in abeyance only as long as the nerve was completely or considerably paralysed, but that as soon as the conductivity of the nerve returned to any extent the spasms set in and became more severe in proportion to its increase.

The patient now made a desperate effort to return to work, and was pleased to find that he could somehow manage the duties of a cash collector at an eating-house, which he has continued to discharge ever since. I should add that there are still a few old stumps which he jealously preserves.

The literature of the subject is not very large, for the number of cases which have been reported is at present small; still there are papers to be found by the various physicians and surgeons concerned in these cases, most of which I have consulted, and references to which I have given in the table appended to this communication.

Briefly it may be said that there are thirteen cases on record, in one of which, reported by Southam, of Manchester (his second case), no late account is obtainable, the patient having been lost sight of. Of the others, with one notable exception (Southam's first case, which remains quite well after two years), all exhibit a more or less severe return of the previous symptoms. Not a very favorable account truly to

give, nor a very encouraging one. Still, it must be added that in some of the cases (Baum's, Schüssler's, Eulenburg's, and two of Bernhardt's) there appears to have been some amelioration of the trouble, and even allowing for an almost unavoidable tendency to take the brightest possible view of such cases after the operation, the definite reports of such distinguished men deserve our consideration. The remaining five cases, two of Putnam's, one of Bernhardt's, and two of my own, though all obtained relief for a time are now reported to be as bad as ever.

In two of the cases operated upon under Bernhardt's supervision, one by Langenbeck and the other by Hahn, I venture to think the stretching must have been very imperfectly performed; for in one no paralysis followed, and in the other only a few branches (and, therefore, obviously not the whole of the nerve) were stretched. Still the former case appears to have been relieved, though very slightly. This case is rather akin to that of Baum, in which the paralysis lasted only half an hour (indicating that but little injury was done to the nerve), and in which the symptoms, when they returned, did not reach their former intensity.

In most of the cases the effect of the operation appears to have been a practical solution of continuity of the nerve at the part stretched. And this, I think, places this method of stretching a small nerve on a hook on a completely different footing from that of pulling a large nerve, like the great sciatic, with the finger; for which reason, amongst others, I have omitted all reference to the latter class of cases in this paper. If a large nerve be pulled, the effect, whatever it may be, is probably produced either by dragging upon the point of origin or else by loosening it from its sheath; but in the case of a nerve such as the facial, it hardly requires demonstration to prove that no amount of pulling upon the trunk outside the skull can have any tangible effect upon the medulla. I was led, however, to examine this point rather closely, whilst investigating the effect of stretching the spinal accessory nerve. If the brain be removed and the two nerves dissected out in the neck, a comparatively slight pull upon the spinal accessory produces a very obvious movement of the part which has been divided in the skull, as we should be led to expect from the shortness of the jugular foramen; but pull as hard as you please, even to tearing the nerve across, not the slightest movement is observed in the cut end of the facial. In cases, then, like these under discussion, the nerve is stretched tightly over

the comparatively sharp edge of the hook, and is thus more or less disorganised or broken, but with the certainty that restoration or union will take place; thus we generally find a complete paralysis as the primary result, lasting for a variable time, often for three months; after its disappearance the twitching has sometimes recommenced immediately, but oftener a respite for some time has been observed, and then either with or without some obvious exciting cause, it has again set in and has gradually regained, in part or altogether, its former intensity. We must, therefore, it seems to me, give up the idea of the profound effect upon the nerve centres (or at least allow that if such do occur it is only of a temporary nature), and recognise that the *modus operandi* is simply that of breaking a bad habit, which must be taken for what it is worth.

In discussing the question of recommending the operation to a patient, we must not forget that the risk, with due cure is almost *nil*; that a certain immunity from the trouble may be safely promised for a time, and that this period may be very considerably prolonged, and while Southam's remarkable case remains completely well, there is always the hope that the relief may be permanent. Were it not for this, however, I am afraid the general verdict would be that the time had come when this small chapter of surgical therapeutics, in the writing of which several of us have taken part, and which opened with a good deal of enthusiasm, must be closed.

In conclusion, I beg to thank those gentlemen, at home and abroad, who have most kindly afforded me by letter particulars of their cases, and allowed me to place these in the table, which adds so materially to the value of the record of this case. And I would especially refer to the very interesting papers on this question by Dr. Bernhardt in the *Zeitschrift für klinische Medicin* (Frerichs and Leyden), Band iii, 1881, Seite 96, and in the *Deutsche Medicinische Wochenschrift*, No. 9, 1882, and No. 29, 1882.

I can add nothing at all to the pathology of the disease either from my own observation or from reading, and, indeed, it appears that any knowledge we possess, if there be any worthy of that name, is purely hypothetical.

TABLE OF CASES OF TIC CONVULSIF TREATED BY STRETCHING THE FACIAL NERVE.

No	Reported by	Date.	Sex and age.	Nature of case.	Duration of paralysis.	Return of symptoms if it occurred.	Result.	Where reported.
1	Baum	July 20, 1878	F., married, 35	Delicate all her life; menstruation irregular; a widow, with hard work. Six years previously had a sort of epileptic seizure, after which the twitching of the face began, affecting eyelid first and spreading to the rest of the left side of face; at first lasted for one month, then intermitted for two, then became chronic; the right side of mouth occasionally affected	Paralysis disappeared in half an hour	Slight return of spasm in 9 months; later a second relapse, but not so severe as before	Two years afterwards there remained a decided improvement on the original condition. In a letter to Dr. Bernhardt, the writer says, "at all events the condition two years after the operation was not at all comparable to that which existed previously"	*Berliner Klinische Wochenschrift*, 1878, p. 595
2	Bernhardt (Hahn)	Nov., 1878	M., 36	Violent pain in right side of face during campaign of 1870-71; twitching of eyelids in summer of 1873; the whole of the right side of face affected in 1874; some crackling in right ear, made worse by reading by gaslight; the right side of the head felt heavy	No paralysis followed the operation	Twitching returned on the following day	As the result of this and other methods of treatment employed, he was supposed to be a little better two years afterwards	*Zeitschrift für klinische Medicin* (Frerichs, Leyden), 1881, p. 98

No	Reported by	Date.	Sex and age.	Nature of case.	Duration of paralysis.	Return of symptoms if it occurred.	Result.	Where reported.
3	Schüssler	Jan. 23, 1879	F., single, 39	Very good health; tic convulsif without known cause in summer of 1871; a curious feeling being first felt about the left eye, and afterwards spreading to the whole left side of face; no accompanying pain; sleep interfered with. All manner of treatment proved ineffectual. Worse at menstrual periods, and then apparently very severe and accompanied by migraine; worse in summer	Paralysis reduced to a slight paresis by Mar. 4 (6 weeks after operation); this had disappeared by April 12 (about 12 wks.)	Slight return of twitching after 6 months, which became worse later	Improved. In a letter to Dr. Bernhardt, the writer says, "But the twitching never reaches, or has reached, anything approaching the same degree which existed before the operation"	*Berliner Klinische Wochenschrift*, 1879, p. 684
4	Eulenburg (Hüter)	Dec. 2, 1879	F., single, 27	A very severe case of blepharospasm (tic convulsif). Began suddenly, without known cause, two years previously, and affected some muscles supplied by spinal accessory and part of the flexors of hand and finger, but principally left orbicularis palpebrarum and left side of face; it extended slightly to right side of face; tenderness over many branches of 5th. All other remedies—subcutaneous injection of morphia, atropia, curare, electricity, stretching and dividing of the supra-orbital nerve, had previously been tried in vain. Patient had enlarged glands in neck when a child	Paralysis complete, lasting 3 months; then gradually and slowly disappeared	The author writes to me under date Feb. 10, 1883, "In proportion to the disappearance of the paralysis the spasm returned, but was never quite so violent as before, so that the patient felt in some degree relieved"	Somewhat relieved	*Centralblatt für Nervenheilkunde*, 1880, No. 7

5	Putnam	April 24, 1880	M., 25	No cause assigned. The usual symptoms are said to have been present for 3 years. The patient was otherwise in excellent health	Paralysis began to disappear after 1 month, and there was none remaining at the end of 9 months	Tonic contraction at the end of 9 months as before.	Unrelieved	*Archives of Medecine*, New York, Feb., 1881
6	Bernhardt (Langenbeck)	June 18, 1880	M., 21	No hereditary disposition; perhaps some exposure to cold might be the exciting cause; sudden onset of convulsive movements at Easter time, 1876; left side only affected; movements observed during sleep	Only the branches to the eye and the upper part of the face pulled; paralysis began to disappear on the third day, but had not quite gone at the end of 3 months	Considerable return of spasm at the end of 3 months, which became as bad as before the operation	Unrelieved	*Zeitschrift für klinische Medicin* (Frerichs, Leyden), 1881, p. 99
7	Sturge, Godlee	July 20, 1880	F., married, 72	Some tendency to nervous disease in family. Had good health till a few years ago, except occasional fits of depression; then left a widow; then twitching began on right side of face; at one time, after complete rest, it almost entirely disappeared; for 2 months previously getting much worse; no local irritation; no branches of 5th tender at time, though some became affected later; first symptom a little pain at the side of nose	Paralysis complete; began to disappear in 2 months, and had almost gone in 3 months	Very slight twitching noticed at end of 3 months (not, however, observed by patient); obvious twitching began as the result of a severe nervous shock 9 months after operation, and gradually reached the same intensity as before	Unrelieved	*Transactions of the Clinical Society of London*, vol. xiv, p. 44

No	Reported by	Date.	Sex and age.	Nature of case.	Duration of paralysis.	Return of symptoms if it occurred.	Result.	Where reported.
8	Southam	Mar. 28, 1881	F., 59	Has enjoyed good health all her life; the tic seemed to follow a sudden severe fright 2 years previously; it had resisted all manner of treatment	Paralysis began to disappear 5 weeks after operation, and had completely gone in 16 weeks	None 25 months after the operation	Mr. Southam writes to me under date Apr. 7, 1883, "The cure has been complete and permanent; there is not the slightest indication of any tendency to return of the spasm"	*Lancet*, Aug. 27, 1881
9	Hoffmann	Mar. 28, 1881	F., married ?	Unilateral	Slight paralysis present in May, 1881, which apparently lasted, at least, till autumn of the same year	In May, 1881, there was already slight return of the spasm; during the autumn of 1881, while the patient was pregnant, and after confinement, the spasms became more severe, but afterwards returned to the condition observed in May	Improvement. Dr. Hoffmann writes to me under date April 10, 1883 (25 months after the operation), "Accounts up to the present date confirm the continuance of the favorable result."	Exhibited at the Neurologenversammlung in May, 1881
10	Southam	Aug. 1, 1881	F., 32	Clonic spasm of muscles of whole of right side of face; first manifested itself about 4 years previously, but had become much worse during the 6 months previous to the operation	Paralysis still present 3 mos. after the operation, but disappearing	—	In a letter Mr. Southam states that he has failed to trace the patient, and cannot give the result	Not reported
11	Bernhardt (Hahn)	August, 1881	F., mar-	Following lupus, which caused contraction of eye-	Paralysis began to disappear 7	Twitching began to return after 7 mos.	Improvement. At time of last report,	*Deutsche Medicinischer*

			ried, about 35	lids; began early in 1878, affecting left orbicularis palpebrarum, and extended over face; all sorts of previous treatment ineffectual	or 8 weeks after operation, and power had completely returned in 5 months		10 months after operation, there was considerable return of spasm, but not so severe as before the stretching	*Wochenschrift*, No. 9, 1882, and No. 29, 1882
12	Godlee, de Watteville	Left nerve, Nov. 10, 1880. Right nerve, Mar. 24, 1881	M., 36	Good health otherwise; twitching began on left side in 1877 and extended to right side; eye first affected; made worse by exposure to light, cold, and by excitement; no cause discoverable; twitching, though bilateral, confined to parts supplied by facial nerves; tenderness of left supra-orbital nerve, which was divided; all other methods of treatment tried, but ineffectual	Paralysis on both sides complete; power began to return on the left side 12 weeks after the operation; on the right side in about the same time	The twitching on both sides began to reappear as soon as the paralysis had disappeared, and increased proportionally to its disappearance, gradually regaining all its former intensity	Unrelieved	The present case
13	Putnam	June 1, 1881	F., 45	Unilateral; began 9 years previously, without any known cause; eyelid alone affected at first, mouth a year later. All muscles, including the platysma, strongly contracted. All kinds of treatment, including galvanism, section of supra-orbital nerve, subcutaneous injections of morphia, &c., were used in vain	Paralysis severe; lasted two months or more	Immunity for several months after disappearance of paralysis; then reappearance of symptoms	Unrelieved	Not yet reptd. Information by letter to author

XLVII.—*A Case of Spondylitis Deformans.* By H. H. Clutton. *Read June* 1, 1883.

THE patient, whom I exhibited some few meetings ago, is just thirty years of age, and the subject of spondylitis deformans. It is especially on account of his age that his case becomes interesting.

Family history.—Father (æt. 63) and mother (æt. 75) one brother and one sister are all alive and well. His father is the only one subject to rheumatism, and this appears to be of a trivial kind.

In his previous history there is strong evidence of rheumatism affecting the joints. When nine years old he was confined to bed for rheumatism which lasted, with several intermissions, for six months. It began in the metatarso-phalangeal joint of the right big toe. It then attacked the right knee, and finally the right hip. The toe and knee were quite well at the end of the six months, but the hip has, he says, always remained stiff, and the right lower extremity has seemed ever since shorter than the left. He has at different times suffered from rheumatic pains in the same joints, but has never been laid up with a similar attack since the one above recorded. Six years ago he had a painful foot which the doctor called rheumatic gout. The dorsum of the foot over the tarsus was swollen and painful for a few days, but he was able to do his work, which was that of a cabinet maker. He has never had any venereal disease of any kind, and beyond the attacks above described has always enjoyed good health.

He first felt pain and stiffness in his neck about three years ago, but it has caused him little inconvenience till the last six months. He has, however, for two years been unable to bend his neck and turn his head as comfortably and naturally as other people can, and as he himself was able to do three years ago. He cannot give any account of his back or chest, and is not aware that they are fixed and immoveable. For the last three months his left shoulder has been stiff and painful, and he still occasionally suffers from rheumatic pains in the right hip.

His present condition is one of almost complete anchylosis of the whole spinal column. He stands with the left leg advanced in front of the right and in a stooping posture with

the knees bent. His spine presents one large dorsal curve with the convexity backwards and a slight lateral deviation to the right. The head is craned forwards and the chest is sunken and depressed. The movements of the head are very much impaired, although not as yet completely destroyed. He cannot turn his head at all to the right and only slightly to the left, the nose moving about one and a half inches from the median line. The lateral movements ordinary obtainable in the cervical region are entirely absent. In raising and depressing the head the chin only moves three inches, and he cannot get the chin nearer than four inches from the sternum. In throwing the head back as far as possible, the chin is seven inches from the episternal notch. There is no movement whatever in the lower cervical vertebræ. This is well seen in making the patient bend the head forwards or sideways, for although he cannot get his chin nearer than four inches from the episternal notch, this is much nearer than the chin can approach the body of the sternum. In health the chin easily touches the body of the sternum from the movement in the lower cervical vertebræ, but only with difficulty the episternal notch, this latter movement being chiefly effected by the nodding movement of the occiput on the atlas; and the facility with which it is accomplished is largely dependent upon the amount of fat beneath the chin. There is no creaking in any of these movements. On bending the whole body forwards it is seen that the spinal column is quite rigid. There is no separation between the spinous processes in any part of the spinal column, nor is there any increase of curve. With the knees extended, the tip of the index finger on either side reaches only four inches below the lower border of the patella; and this movement appears to be effected by the hip-joints, for one can detect no movement in the lumbar region. In watching the respiration it is seen that the breathing is chiefly carried on by the diaphragm. On the deepest inspiration there may be some slight expansion, but there is no elevation of the ribs.

His height is now 5 feet 2 inches in his boots. And he is quite sure that some years ago he was 5 feet 5½ inches when measured in his boots against the wall.

The other joints move easily and without creaking except the right hip and the left shoulder. Both humeri seem to have "lip growths" at the margins of their upper articular surfaces. This is more marked on the left than on the right, forming a distinct prominence beneath the deltoid. The

movement also of the left shoulder is slightly limited in its range upwards and backwards, so that he cannot touch his right ear with his left hand. There is a slight suspicion of creaking in the left shoulder. This is the shoulder in which he has lately suffered from rheumatic pains.

His hands and elbows are quite healthy and present nothing abnormal. The hips appear to move easily and without creaking when in the recumbent position, but on standing he does not seem to be able to flex the right thigh so easily as the left. The right great trochanter is larger than the left, and tender on pressure. He thinks the right lower limb is shorter than the left, but there is no difference in measurement. The right anterior superior spine is however at a higher level than the left, probably on account of the slight lateral curve in the spine.

The knees are quite healthy. One cannot even detect any enlargement of the articular rim in these joints, which are so easily examined for such increase in size. In the feet both big toes are slightly affected with chronic rheumatic arthritis; the articular rim of the metatarso-phalangeal joints being decidedly prolonged and enlarged. I think, therefore, that in this case we have a distinct history of rheumatism and evidences of rheumatic changes in some of the joints.

Dr. Allen Sturge brought a case before this Society in which a similar condition of the spine was present. The case is fully reported in the *Clinical Society's Transactions*, vol. xii. The patient was twenty-six years of age, and suffered with quite as severe a form of anchylosis of the spinal column. But there was no history of rheumatism, nor is there any evidence in the report of rheumatic changes in the joints. The family history of Dr. Sturge's patient, however, shows that his mother and one brother suffered severely from rheumatism.

Such an extensive and severe form of anchylosis of the spine, with or without rheumatic change elsewhere in the body, is a rare condition in a man of thirty years of age. And it is on this account that I have brought him before the notice of this Society.

In the remarks appended to Dr. Sturge's paper, before alluded to, there are references to a few other similar cases occurring at this early age. Two of these are recorded by Todd, one of whom was a man twenty-five years of age; one by Eulenberg in a child twelve years of age; and, lastly, a case of anchylosis or synostosis of the ribs to the vertebræ and

of the spinous processes to one another, in a man aged thirty-four, is recorded by Dr. Hilton Fagge in *Trans. Path. Soc.*, vol. xxviii. The bodies of the vertebræ were, however, quite free from deposits of bone. This man was very much bowed, the skin of the abdomen as far as the umbilicus being in contact with the sternum.

In the case here reported it is impossible to say what is the exact manner in which the spine and ribs are fixed to each other, but it is probable that the condition is one generally described as spondylitis deformans, a form of osteo-arthritis in which the bodies of the vertebræ are at first connected together by a deposit of bone along their contiguous margins; the intervertebral discs in such cases eventually disappear, and the bodies become fused or welded together. The same changes occur in the articulation for the ribs as in other joints affected with the disease. The condition of this man's joints favours the view that these changes are occurring in his spine. But, contrary to the usual state of affairs, the spine is here further advanced in the progress of this disease than the joints of the extremities.

XLVIII.—*A Case of Spondylitis Deformans and commencing Osteitis Deformans.* By Henry A. Lediard, M.D. *Read June* 1, 1883. (*Patient shown at Society January* 26, 1883.)

WILLIAM N., æt. 58, a miner, was admitted into the Cumberland Infirmary on September 20, 1882, complaining of pains in the legs and right arm, of stiffness in the back and neck together with fixation of the head and neck, the chin being turned to the right shoulder.

His father died at seventy-three years, having been troubled more or less with rheumatism, but none of his other relatives have suffered from either gout or rheumatism.

He began work as a miner in his eleventh year, and "trailed" for five years and then commenced to "hew;" at this labour he has continued ever since, excepting at intervals when laid up by illness. Work was usually carried on in five-foot seams, but very often he wrought in a height of but

eighteen inches; he rested at work on one side with the leg of the same side flexed under him, the other being extended; the back was bent according to the height of the seam. About thirty years ago he had pain in the lower part of the spine, passing down the legs both front and back; was off work for some time. This lasted for some seven years, no treatment affording any relief; he attributes his improvement at last to his working in a highly heated part of the mine. The pain at this time was almost constant for a year, and at the end of seven years the spine was stiff, but more pliable than now. About thirteen years ago pains were felt in the neck and between the shoulders, he was off work for ten months; pains, although not so severe have been felt more or less ever since, and the back, neck, and head have been rigid for the last six to nine years. There is no history of gonorrhœa, syphilis, or accident of any kind.

At the present time he is a spare but healthy-looking man, with abundant hair, far too white for his years; he stoops forwards to such a degree that the observer can only see his face with difficulty. There is remarkable fixation of the vertebræ, which form a gradual curve, extending from the occiput to the sacrum, with the convexity backwards; but for slight antero-posterior movement in the mid-cervical region, there is absolute anchylosis of the entire spinal column.

All occipito-atlo-axial movements are abolished, the head being fixed with an inclination to the left shoulder. There is no special tenderness on pressure over any part of the spine, neither can any enlargement of any of the bones be detected. From the stooping posture there is a folded condition of the abdominal parietes at the level of the navel, well seen in the photographs. (Pl. IV, fig. 3.)

The girth of the skull is twenty-three inches at the level of the occipital protuberance behind, and about an inch above the superciliary ridge in front; the formation of the skull presents nothing unusual.

The humeri appear to be natural as also the shafts of the bones of the forearms, the small bones of the hands do not show the changes usually associated with chronic rheumatoid arthritis. The femora, which are thought to be somewhat too massive, are curved, especially the left, in an outward and forward direction, and when he stands with the malleoli touching, the inner condyles are four inches apart.

The tibiæ seem natural but for slight curving outwards. He states that formerly he was perfectly upright, and that his

legs were perfectly straight. When standing he has pains up the thigh bones, and says it is a "far bigger trouble to him to stand than to walk." He can walk at a very fair pace in his bent posture, and the deformity of the legs is much more marked when walking than in the standing position, for the knee-joints seem to give outwards.

The movements of both shoulder-joints are much limited especially the right, and have undergone chronic rheumatoid arthritic change associated with the usual grating. The elbow, wrist, and hip-joints are natural.

There is effusion into the right knee-joint and general thickening of the tissues similar in character to that noted in the shoulders, and on movement the joint grates.

The sterno-mastoids are wasted, as also are the supra- and infra-spinati muscles, the scapulæ are approximated to the ribs, as if the serratus magnus on each side was but feebly developed. The gluteal muscles are, moreover, much atrophied.

The movement of the chest walls during respiration is almost *nil;* the ribs are closely placed but do not exactly touch; the respirations are diaphragmatic. The heart, lungs, and kidneys appear to be normal.

The general aspect of the patient when standing without his clothes is highly suggestive of osteitis deformans as illustrated in the *Medico-Chirurgical Transactions,* vol. lx (pl. i) the stooping position, the head directed downwards, and the long reach of the arms are strikingly similar to the case there recorded by Sir James Paget. It is probable, however, that the disease some years hence will have so far advanced as to render the likeness far more striking than it is at present, supposing that I am correct in the diagnosis.

In all Sir James Paget's cases there has been a history of rheumatic pains, in some, evidence of rheumatoid arthritis affecting one or more joints, in all instances also does the age of the patients approach more or less nearly the age of my patient.

In one instance only does it appear that the spinal column was examined after death, at least, in one instance only is the record of it made, and in that case there was no true anchylosis of the vertebræ, although there was evidence of rheumatoid arthritis elsewhere. Were it not for the curved and thickened condition of the femora, I should have been inclined to have held to the original idea I formed that the case was simply one of those described by Dr. Sturge in the *Transactions* of this Society (vol. xii) called spondylitis deformans, in

which the spine is stiffened as a part of a general rheumatoid arthritic process; as it is I am disposed to believe that if the case is one of osteitis deformans, the addition of a few years will render the characters far more unmistakable than they are at the present time.

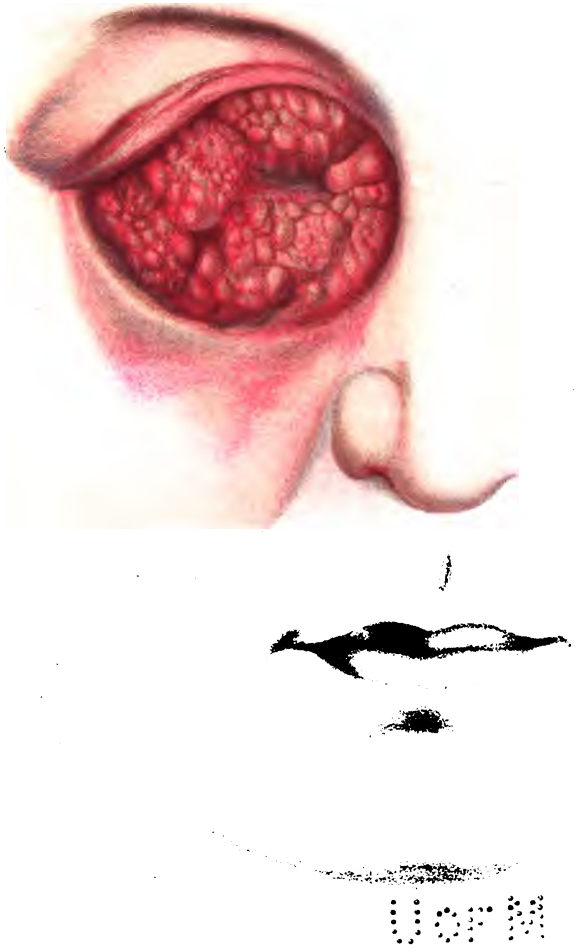
XLIX.—*Two Cases of Epithelioma occurring on tight Cicatrices.* By George Lawson. *Read June* 1, 1883.

CASE 1.—*Large Epithelioma growing from a Cicatrix which united the Eyelids to the Eye. Excision of the Growth and the Eye. No recurrence after two years.*—Margaret ——, æt. 38, a pale, anæmic woman, stout, with flabby tissues, and slight œdema of the feet and legs, was admitted into Regent Ward, Middlesex Hospital, on May 21, 1881, with a large fungating growth which covered the front of the right eye.

Previous history.—The only history which could be obtained from the patient was that in childhood she had had brain fever, and about that time she lost the sight of both eyes, so that she was unable to discern any object, but she could see light from darkness, and could tell where the window was in the room. It is probable that the patient had at that time some ulcerative inflammation of the lids and globe, possibly diphtheritic, as between the opposed surfaces of the upper and lower lids and the globe there was complete adhesion. In September of the previous year (1880) the growth first commenced, and has steadily increased up to the present time.

State on admission.—The *right* eye is excluded from sight by a large red fungating growth, which protrudes both the upper and lower lids, and slightly overlaps the edge of the orbit. It apparently springs from the cicatricial tissue which binds the lower eyelid to the globe, and the tumour moves with the eye. (Pl. IX.) The patient complains of a good deal of pain in the growth.

The *left* eyeball is united firmly to the upper and lower eyelids, complete symblepharon, the cornea is opaque and staphylomatous. From the union of the lids to the globe the patient is unable to move the eye.



J. Mintern, lith.

Mintern Bros. Chromo. imp.

Mr Lawson's case of Epithelioma.

M 40 J

April 1.—The patient having been placed under an anæsthetic, I excised the tumour with the cicatrix from which it sprung, and the eye, to which it was partly attached. There was some free bleeding, but it was easily controlled.

The patient made an excellent recovery, and has had no recurrence of the disease.

Case 2.—*Large Epithelioma of the Thigh occurring on an old Cicatrix: Amputation of Thigh. No recurrence after two years.*—Mortimer A., æt. 30, a tall, strongly-built man, was admitted into the Middlesex Hospital on March 24, 1881, suffering from a large epithelioma of the left thigh.

Family history good. His father, æt. 70, living and well. His mother still living and well. Has eight brothers and sisters all well. No history of cancer or phthisis in the family.

Previous history.—Twenty years ago the left thigh was crushed by a heavy cart passing over it, and from his description the muscles and skin appear to have been much torn; but there was no fracture. He was seven months in the Aylesbury Hospital, and when he was discharged there was still an unhealed superficial wound of about the size of a small saucer.

He then went to work as a farm labourer, but the wound remained stationary and never healed. Two years and a half before his admission into the Middlesex the wound took on a new action; it began to spread rapidly, the granulations became large and fungoid, and it occasionally bled. He had been compelled to give up work, and he had become very thin and feeble.

State on admission.—The patient, a tall and powerfully-built man, was much emaciated and very feeble. The greater part of the anterior and inner aspect of the thigh was occupied by a large cicatrix, the whole of which, with the exception of the surrounding margin, was converted into an epitheliomatous ulceration. The ulcerated surface extended up to within five inches of the level of the great trochanter of the femur, and measured seven and a half inches in length and eight inches in its widest part, tapering down towards the knee. The granulations were large and fungoid, and discharged a quantity of offensive smelling pus. The disease had resisted all treatment since it had first commenced, and the ulceration was steadily increasing.

Under these circumstances I determined at once to amputate just below the trochanter.

March 30.—I amputated the thigh just below the trochanter,

making an anterior and posterior skin flap, and then dividing the muscles and bone. The femoral artery was twisted, and so also were those arteries which were of a sufficient size to seize readily with the torsion forceps. The small vessels were tied with catgut.

In the after progress of the case there was some sloughing of the skin and muscles, and a large portion of the wound had to heal by granulation.

The patient left the hospital in July with a small portion of the wound still unhealed. After a short residence in the country the wound completely healed; he improved in health, and grew fat.

April 1883.—The patient came up to the hospital to show himself. He had grown stout and looked extremely well. He felt better and stronger than he had done for years. The stump was firm and healthy. He was fitted with a wooden leg, and with it he was able to get about well. There was not a trace of recurrence of the disease.

Remarks.—These two cases illustrate a fact which has been long recognised, that epithelioma is peculiarly apt to attack cicatrices of old wounds. The cicatrices which seem specially prone to the disease are tight cicatrices, such as are caused by a great destruction of skin, and those cicatrices upon which there is a constant tension.

In the first case the union between the lids and the globe was very close, so that any movement of the eye pulled upon cicatrix tissue, and so kept up a constant irritation.

In the second case the destruction of the skin of the leg was so extensive, that even though twenty years had elapsed since the accident yet the wound had never completely healed. The cicatrix was a very tight one, and continued tension must have been kept up on the unhealed portion. It is probable that this constant irritation had excited the development of epithelioma. Both these cases also tend to show that if epithelioma can be completely excised before it has affected lymphatic glands, it is the form of cancer which is the most amenable to treatment; whilst experience has taught us that after the lymphatic glands are invaded, epithelioma is the most formidable and irremediable of all the cancers.

L.—*A Case of Nodes on the Forehead from Congenital Syphilis in a girl æt.* 12½. By H. Radcliffe Crocker M.D. *Read June* 1, 1883.

MARY ANN H—, æt. 12½, came to the East London Hospital for Children on April 16, 1883. She was said to have had good health until five months previous to her coming to the hospital when she had an attack of "gastric fever," and has never been well since. Seven weeks ago a tumour appeared upon the forehead a little to the left of the median line, which when first seen by me was 1¾ in. by 1½ in. extending obliquely from the eyebrow to the hairy scalp. It was convex, considerably raised, moderately firm and fixed to the bone, rather tender, more so sometimes than others. To the right of the median line, in a nearly symmetrical position, was another much less prominent and not quite so large, but of otherwise similar characters. In the right orbit just below the eyebrow was a tumour the size of a small marble, much softer than the others and not fixed. The skin over it was red and tender, it was said, from a blow; the skin over the other tumours was quite normal. There was tenderness but no tumour over the right external condyle, but the tenderness was less than it was two days before admission. There was some pain and tenderness over the middle of the right fibula but nothing to be felt, and the right knee "ricked" when she walked and had been swollen. There were also slight swelling and tenderness at the occipito-parietal suture to the right of the middle line.

The two central upper incisors were notched and the right one slightly pegged, and was a fairly characteristic specimen of what Mr. Hutchinson has described as due to congenital syphilis. Her tongue was furred, the breath was offensive, and the bowels were confined; she felt languid, faint, sick, and had pains in her back, and the girl looked ill and depressed. There was no history of infantile syphilis.

Family history.—The mother's health has always been good though now she is suffering a little from hyperlaction. She shows no evidence of syphilis. She has had six children, no miscarriages. Two children have died of "consumption of the bowels," aged respectively nine and twenty-three months old. All of the children who were alive were healthy and had always been so, and presented no evidence of syphilis. The husband was said to be healthy. This appeared to be all the

evidence obtainable, and it was not until repeated cross-examination that it came out that the woman had been married before, and that the patient was the only child by the first husband. He it appeared was a dissipated man, frequently had sorethroat and pain in his limbs, and seemed unwell, but resented inquiry about his health. He died after they had been married eighteen months, and the patient was born three months after his death. This last piece of evidence only came in as a late corroboration of the view that had already been taken of the case. Their general characters left little room for doubt that the tumours were nodes and there remained to be decided whether they were of strumous or syphilitic origin, and whether they were connected with the typhoid fever. There was no other evidence of struma either in the girl herself or any of the family; in typhoid, periostitis no doubt does occur, but mainly, as Sir James Paget has so happily said, in "cases of constitutional disease discovered by the fever." In favour of syphilis, the notched teeth were to some extent corroborative evidence, and I therefore came to the conclusion that the case was one of nodes from congenital syphilis whose manifestations were thus brought out by the depressing influence of the "gastric fever." This view was also arrived at independently by my colleague Mr. Parker. Iodide of potassium and iron were therefore administered, and in a fortnight the tumours were softer and a little smaller, the pain and tenderness over them and in her limbs had quite gone, her general condition also had immensely improved, and her mother said "she was not like the same girl." The further evidence of the history of the girl's father was obtained a little later. On May 21st the tumour in the orbit was quite gone, that on the right side of forehead nearly gone and the left orbit much better.

The interest of this case is threefold.

1. The lateness of the syphilitic manifestations.

2. The discovery of the constitutional taint by the depressing influence of the typhoid.

3. As an example of the value of the notched and pegged teeth as evidence of syphilis congenital.

P.S.—October 8.—The patient came back about one month ago; the tumours on the forehead had completely disappeared, but she was suffering from a node upon the right fibula high up, with synovitis of the right knee, for which she is now in the hospital.

LI.—*A Case of Infantile Hemiplegia with unusual reflex phenomena.* By Frederick Taylor, M.D. *Read June* 1, 1883.

WILLIAM H—, æt. 5, was admitted under my care into the Evelina Hospital on January 17, 1883.

Antecedents.—Father alive and healthy, aged 52. Mother alive and healthy, aged 28. There are two sisters and one brother alive and well; but of the first two children one was still-born, and the other died at the age of two months.

The patient has not had measles, or scarlatina, or hooping-cough. He was healthy when born, and the birth was natural; he was weaned at sixteen months, and was fed on bread, milk, and cornflour afterwards. He never had snuffles or thrush, but was sore about the thighs when teething. With this exception he was quite well until the commencement of the present illness, when he was twelve months old. He was then teething, and had on one day an attack of convulsions which lasted about two hours. They never occurred again, but on his recovery it was noticed that he could not move either arm or leg on either side. This condition lasted for three or four days, and then he gradually began to move, first the right arm, and then the right leg. As time went on the limbs gradually became more or less rigid, and the reflex irritability, presently to be described, developed with it.

He is a fat, healthy-looking child, with a rather stolid expression of face, but lively and playful with those he knows. He is commonly in a semi-recumbent position in bed, and uses his right arm freely and well. The left arm is fixed to the side, the elbows a little bent, the wrist a little flexed, the thumb in the palm of the hand and the fingers flexed over it. The arm is scarcely used at all, and is very rigid, and is only moved just a little at all the joints. Both legs are slightly flexed at the hips and knees, the toes a little turned in towards the soles. Both are rigid, the left more than the right; and, although he can move both of them voluntarily, flexing and extending at all the joints, the right more than the left, he is able neither to straighten nor to flex them completely. He can neither sit up unsupported in bed, nor stand unsupported, nor walk; in the attempt to walk the legs are rubbed together, but no progression is made. The legs are rather firmly held together and resist abduction. There is patellar reflex on both

sides. For some time no ankle clonus was observed, but it can now be obtained. Of the superficial reflexes, the plantar is good on both sides, the abdominal moderate on both sides; the cremasteric, epigastric, and scapular could not be obtained. There is no anæsthesia, no tremor of the muscles, and no marked wasting, though the subcutaneous fat is abundant and would mask a moderate or slight amount. But there is a marked difference in the length of the limbs on the two sides, the left arm measuring 15¼ inches from the acromion to the tip of the middle finger, and the right arm 17 inches; while the left leg measures 20 inches from the anterior superior iliac spine to the tip of the great toe, and the right 22 inches. The naso-labial groove on the left side is not so well marked as on the right side, and in talking the right half of the mouth seems more active. He is intelligent, and speaks well for his age. He passes urine and fæces involuntarily. The following are the curious reflex phenomena to which reference has been made: If a moderately loud noise is suddenly made near him, such as clapping of the hands, the left arm is quickly thrown out at right angles to the body, with extension at the elbow and wrist, and slight unclenching of the fingers, the thumb remaining inside the hand. At the same time his face, if he has formerly been smiling or laughing, suddenly drops, and he looks for a moment sad and alarmed; and the two legs become moderately extended in the same sudden reflex way. The arm remains extended for about thirty seconds, and then gradually relaxes, and resumes its former position at the side of the body; his face also resumes its cheerful expression, and he will again go on with his play. The same reflex phenomena are brought out by other means of irritation affecting the surface of the body; any smart blow on the side of the crib, a tap on the head, or on any part of the body, will at once start the arm into the extended position. Slight taps on the head will also, without extending the arm, cause sharp reflex contractions of the muscles of the lower lip and chin, chiefly of the levator menti, and the eyes are sharply closed at the same time.

After he had been in the hospital some time it was thought that he was less susceptible to blows and noises than he was at first; and I found that when playing with him he would stand a good deal of tapping and noise without extension, so that once I had to give him quite hard blows on the head before his arm would start. It appeared as if the effect was greater when his attention was diverted, or when motor

impulses were not turned into other channels. It has also been noticed that he is very sensitive to the presence of strangers. The entry of one into the ward will start the arm, and with some people he will cry when they come and not be pacified till they leave.

He appears to see perfectly well, but there is disseminated choroiditis in each eye. On January 25 I made the following note: Both discs very pale, yet not white; edge ill defined, physiological cup not well marked; retinal vessels very small, especially on the disc. The fundus presents numerous small spots, some round, yellowish-white, and dull; others are yellowish in the centre and pigmented round the edge; others are entirely pigmented, and these are more often irregular in shape; one white spot has a retinal vessel crossing in front of it. The fundus generally is pale, and choroidal vessels are very obvious. A few days later Dr. Brailey examined them, and thought the appearances were probably due to disseminated choroiditis, but that it differed from what was common in the number and size of the patches, and in the pigment being small in amount in the centre of the patch.

There is no conclusive evidence of congenital syphilis, unless the choroiditis be considered as such; there is a small punctated scar at one corner of the nose. There are no linear scars about the anus. Many teeth are absent from the front of the jaws; those that remain are discoloured, crowded together, irregular, and some are much decayed.

On February 12 he was ordered a drachm of liquor hydrogyri perchloridi with three grains of iodide of potassium, and has continued to take this three times daily until the present time, May 25.

There has been no essential change in the condition; he continues to pass urine and fæces involuntarily.

The muscles of the affected limbs were found to react to both kinds of galvanic current. The following more detailed observations were made some time after the exhibition of the case to the Society.

Interrupted current.—All the muscles react to a moderately strong current. To feeble currents, the extensor muscles of the left wrist and fingers contract scarcely at all, the application of the electrodes to this surface of the forearm being followed by contraction of the flexor muscles.

Continuous current.—All the muscles of both arms and legs react to this current. For the same strength of current the right limbs contract more than the left; the direct current

gives more powerful contractions than the inverse in all limbs, and with the inverse current the closing contraction exceeded the opening contraction in the arms, and equalled it in the legs.

Remarks.—The case seems to be allied to those of hemiplegia occurring in infants or young children, and followed by rigidity and involuntary spastic or choreic movements, such as are described as spastic hemiplegia, and posthemiplegic chorea. The wide extent and distribution of the affection raise a difficulty in localising the lesion; but it is at any rate almost certain that the weakness and rigidity of the left side must be due to a lesion on the right side of the brain; and the implication of the right side would be explained by a simultaneous but separate lesion in the left half of the brain, or possibly the whole thing might be brought about by one continuous lesion stretching across the middle line. As to the nature of the lesion, the manner in which the symptoms came on suggests softening from sudden obstruction to a vessel; and the choroiditis suggests syphilis as a possible antecedent, either by means of gumma, or more likely by disease of the arteries. I do not suppose that morbid anatomy would reveal the cause of the peculiar reflex behaviour of the paralysed limbs in this case.

The early age at which the lesion occurred, and the deficient growth of the left limbs, render it probable that more or less asymmetry of the brain coexists.

LIVING SPECIMENS

DESCRIBED BY CARD.*

I.—*Spontaneous Dislocation of Clavicle.* By S. D. Clippingdale, M.D. *Exhibited November* 10, 1882.

THE patient, Mr. B—, is now 63 years of age. When five years of age his right hip was dislocated, the head of the femur passing on to the dorsum of the ilium. This dislocation was undetected and unreduced. As a consequence, the spine became curved laterally to compensate for the obliquity of the pelvis, the right shoulder was thrown back, and the anterior part of the right sterno-clavicular articulation became relaxed gradually. The bone left its socket completely three months ago when patient was reaching a bottle from a high shelf.

II.—*A Case of Pseudo-hypertrophic Muscular Paralysis in an Adult.* By T. Henry Green, M.D. *Exhibited December* 8, 1882.

JOHN M—, a labourer, æt. 24, was admitted into Charing Cross Hospital on 6th Sept. last, on account of weakness in the legs and back. He stated that he was quite well until rather

* Published in accordance with the Regulation relating to the exhibition of living specimens at the meetings of the Society, viz. that "each case shall be accompanied by a card containing a brief description of the points it illustrates, such card to be retained by the Secretary for publication or not in the 'Transactions' at the discretion of the Council."

more than one year previously when he was knocked down by a pony cart, the wheel of which went over the lower part of his back. He got up and walked home, and with the exception of some soreness and stiffness, he was all right the next day and went to work. About nine months ago, six months after the accident, he first noticed the weakness of his legs. Although he connects this weakness with the accident, it would appear from his statements that he completely recovered from the injury, and remained well in the interval. He states that the weakness came on rather suddenly and that on the first day that he noticed it he fell down once or twice in walking. It gradually increased, and was especially marked on going upstairs. He found also that he had some difficulty in rising from the recumbent and sitting postures. He went to a spinal hospital, was told that he was suffering from Potts' disease of the spine, and was supplied with a spinal support. The enlargement of his calves he had not noticed until his attention was drawn to it at Charing Cross Hospital.

The patient is a somewhat under-sized, but healthy-looking man. He walks fairly well and naturally on level ground, but he soon tires, and in walking a distance of half a mile will fall once or twice. He has much difficulty in rising from the lying and sitting postures; and when on the ground he raises himself with the aid of his hands placed on his knees. When standing there is slight lordosis.

Stripped, the large size of the gastrocnemii and triceps muscles on both sides is exceedingly marked. These muscles are firm but not hard. They are neither rigid nor contracted, and the heels are not drawn up. The vastus externus and supraspinatus muscles on either side are also somewhat larger than natural, but in other muscles no increase in size is noticeable. The latissimi dorsi and the costal part of the pectoral muscles are much wasted; and there is slight diminution in the size of the muscles in front of the thigh, of the glutei, the serrati, trapezei, and teres major muscles. The electrical reactions of the affected muscles is not materially altered. The superficial reflexes are present. The knee reflex can only be obtained with much difficulty. Sensation is normal. The eyes are healthy.

There is nothing else of importance to note about the patient. His general health is good. Heart and lungs are normal. There is no spinal tenderness or other evidence of spinal injury.

The patient's father is living and healthy. Mother died

young, cause unascertainable. He has never had any brothers or sisters. No nervous element can be discovered in the family history. Patient has always enjoyed good health. As a child he appears to have walked well, and without clumsiness. No enlargement of calves was noticed in early life. He played football between the ages of twelve and sixteen.

This case appears to be worthy of record on account of the unusually late period of life at which the disease *first* manifested itself. There appears to have been a complete absence of any symptoms in childhood, and in this respect the case differs from those more common ones in which the disease commences in early life, but marked symptoms are not developed until after puberty.

III.—*A Case of Diffused Scleroderma.* By James F. Goodhart, M.D. *Exhibited January* 26, 1883.

THIS patient was shown to the Society by the kindness of Dr Bartlett, under whose care she has been almost continuously since she left Guy's Hospital.

Louisa M—, æt. 25, came as my out-patient in November, 1873, and was sent into hospital. Her father is alive and healthy. Her mother died of heart disease. No history of gout or phthisis. Has always enjoyed good health till the commencement of present illness. Three and a half years before her appearance she had a whitlow on the index finger of right hand, and a short time after what she calls whitlows came on all the fingers of both hands; a fortnight afterwards her right hand swelled up a great deal, and when the swelling subsided the skin of the back of the hand was noticed to be hard and shining; a short time afterwards the skin of the other hand passed into the same state and the joints of the fingers on both hands felt stiff. Under medical treatment she was much relieved for a time, but soon got better her fingers getting stiffer. She then went to Plymouth at Mr. Sydney Jones's advice, remaining there twelve months. She then attended at St. Thomas's Hospital, and subsequently went to Margate, but while there she lost the use of her limbs, and was unable to walk without a stick, and has not been able to walk well since. Four months ago the big toe of the left foot became very painful

and stiff; she has lost much flesh since the commencement of her illness.

She is a healthy-looking girl of average height. The skin of the dorsal aspects of hands, and a little way up the forearm, and of the big toe of left foot, is hard and shining and can only be slightly raised from the deeper structures. The transverse markings on back of left hand are indistinct. The skin of front of neck and under chin is in the same condition, and produces hard ridges when the neck is extended. Sensation of all forms in the hands is perfect. Her fingers are semi-flexed, and she is unable fully to flex or extend them; with a little force they can be extended but this gives her pain.

Hair light. Sight and hearing natural. Glands on right side of neck enlarged. All the viscera seemed normal. Urine 1020, normal.

Nov 3.—Skin of face seems a little hard. She was treated by chaulmoogra oil lubrication of the affected part, and by the continuous current, and Ol Morrhuæ was given internally. She improved slightly after three and a half months' treatment.

It is not stated, though I distinctly remember, that the face was much affected, being waxlike in its rigidity, and she was unable to laugh. The thickening spread over the sides of the face and also the forehead.

She was readmitted into Guy's Hospital April 16, 1881, and discharged June 6. She was then treated with increasing doses of arsenic, taking fifteen minims three times a day. She considered that this remedy made her worse, but after a severe attack of broncho-pneumonia in August she steadily improved. Whilst in bed during this illness there was a tendency to excoriation and ulceration of the exposed parts affected, viz. her knees and knuckles of hands, particularly of the little finger.

The case still shows a typical scleroderma. The face is still rigid, and in colour yellowish and chlorotic, and there is the fixed stiff smile; the hands are semi-clenched; the fingers little more than bones with a densely adherent skin to them; and it may be questioned indeed if there be not actual atrophy of the phalanges.

The fingers exhibit well the atrophic stage, the neck and face the indurated (hypertrophic) one; and in this regard the case is interesting as tending to show what has been disputed, that the two conditions are really stages and not distinct affections. Further, the case is typical in the spontaneous

subsidence of the disease at some parts and its extension at others.

Jan. 26, 1883.—Shown at the Clinical Society. She is now much better than she has been, and a careful examination shows as follows: she has lost her waxy colour of skin and looks more ruddy; moreover, she now has a fair amount of play of her features, but the fixity of the lower lip and adjacent part still give the smile a forced abnormality. The skin of the face is fairly supple, it is thicker than natural but not much so; over the chin and sides of the lower jaw for half way, the old features present themselves, viz. a dense corpse-like solidity of all the tissues, so that they and the subjacent bone feel one. The scalp is unaffected. In the median line of neck are two or three narrow bands of indurated skin running from chin to sternum. Elsewhere in neck and over upper part of chest there is a certain amount of brawniness hardly amounting to scleroderma, perhaps it would not have been noticed had not the more pronounced conditions elsewhere attracted attention. The same remark applies to the skin and soft tissues of arms and legs.

As regards the hands and forearms, they are cold and cast like in the dense union of soft parts and bones. The terminal phalanges appear to be shortened, and all the digits look like bones covered with a mere layer of skin, so thin and shrunken are they. There is a little passive movement in the joints, and over several of the knuckles there are small sores from the loosening of the scabs formed after the ulceration above described. The pronounced disease extends about a third up the forearm. The elbows were severely affected but are now much better.

The feet are cold, have had broken chilblains on them, but are hardly affected with scleroderma. The knees, the left far more than right, are badly so, and the soft tissues in the popliteal spaces are rigid as elsewhere, but she can walk by herself though her posture is peculiar; she bends her body to an angle of 135° and gets along slowly in that way. This she does, she says, because her back and hips feel so weak. I should have been inclined to put it down to the still slight flexion of knees and the rigid condition of the hams—a compensatory curve in fact. Sensation is perfect everywhere.

IV.—*A Case of Acute Diffused Scleroderma.* By Samuel West, M.D. *Exhibited January* 26, 1883.

JOHN C—, æt. 48, came as an out-patient under my care at the Royal Free Hospital, complaining that for ten weeks his skin had been getting hard and stiff. The change commenced in the upper arms and spread rapidly to the nape of the neck, and thence gradually over the whole trunk. He could attribute the disease to no cause. He had been in good health and had had no illness except during the last ten years one or two slight attacks of gout every year, the last being more than twelve months ago. There was gout in his family, his father suffering in the later years of his life much from it. Since the appearance of the skin affection he had been troubled with pain after food in the epigastrium, but in other respects was in his usual health.

By occupation the patient was a licensed victualler. There was no distinct history of syphilis nor any evidence of it. The condition of the skin was as follows:

The whole back of the neck was as hard as tanned hide. The capillaries were dilated over it, and on pressure the red flush over it could be made to disappear to return slowly when the pressure was removed. There was no pitting, the skin could not be pinched up, nor could it even be bent when the fingers compressed it from the sides. It felt like a piece of dry, hard rhinoceros skin, and gave the sensation of being about half an inch thick.

The induration extended upwards to the occipital ridge and forwards to the level of the top of the thyroid cartilage. Below, it extended over the whole thorax and abdomen, back and front. Down the arms it was most marked on the outer and extensor surfaces, the inner part being still soft, as were also the pits of the axillæ. The induration gradually disappeared towards the wrists, but could be traced about half way down the forearm on the extensor surfaces, the flexor surfaces being free, as were also the hands. Over the buttocks and thighs, on the posterior and outer surface only, the induration could be followed nearly down to the knees, but it was more difficult to limit and trace in this region. The scrotum and penis, as well as the feet and legs, were quite free. The change was in every part absolutely symmetrical. The face and scalp,

as well as the tongue and mouth, showed no evidence of any similar change.

The appearance of the skin, except over the nape of the neck, was the same throughout. It had a dull alabaster colour, with a yellowish-pink tinge, and a slightly mottled appearance. The superficial capillaries were dilated, for the fingers left on pressure a distinct pale mark, which only very slowly recovered its colour, showing thus the slowness of the capillary circulation. There was no loss of sensation, no localised swellings on the skin, no glandular enlargements, and no affection of the internal organs.

The patient complained of no discomfort except the stiffness. This condition he described well by saying that "when he throws his head back the skin draws his mouth open," and that "when he raises his shoulder he draws up the skin on his legs.

Fourteen days later the condition was much the same, except that the skin over the neck posteriorly was certainly softer, and that the process seemed to have spread slightly over the face, the parts immediately behind and under the lower jaw, which had been quite soft, being now slightly indurated. The change extended also slightly over the masseter and temporal region and reached under the orbit nearly as far as the nose, its exact symmetry being still clearly marked. On raising the arm over the head all trace of axillary folds and pits disappeared, the skin becoming white and alabaster-like when it was put upon the stretch, and in the parts where the skin was relaxed red areas and streaks appearing, due clearly to dilatation of the capillary vessels.

At this time there was a faint trace of albumen in the urine which had been absent previously. The treatment consisted in a hot bath daily, and the inunction of a mixture of chaulmoogra oil and olive oil twice daily, the inunction being reduced to once daily at the end of a fortnight owing to the irritation produced by it, and afterwards discontinued for the same reason. Iodide of potassium in increasing doses was also prescribed.

The patient remained in the hospital for nearly three months. The hardness certainly decreased a great deal during this time but did not disappear. There was no further extension. The patient left the hospital with the condition still well marked over the whole regions described. He has been seen several times since, and is still in much the same condition now, about eight months from the commencement of the

affection. He is in every way well in himself, but is prevented from working by the itching, which is only relieved by rubbing in the oil. This he does still night and morning.

While in hospital the effect of pilocarpin was tried upon him. A quarter of a grain was injected on three occasions, but in none with the slightest effect.

Of the three forms of scleroderma, this—the scleriasis diffusa of Fagge, or the scleroderma elevatum or hypertrophicum of Hebra—is the most uncommon. It appears to be exceptionally rare in this country, but in all essential particulars this case agrees with the other cases described, both in its early appearance on the back of the neck, in its symmetrical wide distribution, and all the general characters of the parts affected. Its occurrence in a male is unusual, most of the instances of the disease recorded having occurred in females. The prognosis appears to be good. I hope to record the further course of the case in a future contribution.

V.—*Obstruction of the Superior Vena Cava.* By J. K. Fowler, M.D. *Exhibited February* 23, 1883.

W. W., æt. 48, a labourer, complains of cough. No family history of phthisis or cancer, father suffered from gout. Patient had scarlet fever at the age of 10, smallpox at 18, acute rheumatism at 30. For twelve years he has since suffered from winter cough. He has drank freely all his life, and nine years ago had an attack of delirium tremens. Gonorrhœa at age of 16; no specific history.

In September, 1877, whilst at work, was suddenly affected with right hemiplegia facial paralysis and aphasia; no loss of consciousness or convulsions. After the attack he walked a distance of a mile and a half, dragging the right leg. Speech normal in a week; motor power regained in five weeks.

In November, 1877, he had a severe attack of epistaxis, losing nearly a quart of blood.

In October, 1878, he first noticed enlargement of superficial veins of abdomen, and in January, 1882, enlargement of the superficial mammary veins. He has suffered from palpitation of the heart for the last twelve years, always worse after drinking; has had no difficulty in swallowing. Since paralytic attack has been subject to blueness and

swelling, and cold sensations in the right hand and both sides of face, worse on exertion. In November, 1882, he received an injury to the right shoulder. He has lost two stones in weight in the last two years.

A fairly-nourished, thick-set man. The superficial veins of the neck, right arm, thorax, and abdomen are remarkably enlarged and tortuous, one extremely enlarged appears at the interclavicular notch, passes down the sternum, and anastomoses with the superficial epigastric. The superficial mammary veins both anastomose with the epigastric and form a large plexus on the front of the thorax and abdomen, a large vein in the right axilla passes across the right nipple and joins the right superficial epigastric; there is no enlargement of the corresponding vein on the left side. The course of the blood-stream is from above downwards. The cardiac apex is in the fifth interspace, one inch and a quarter below and same distance external to mammary line, the impulse is thrusting; there is no bruit at apex or base. Percussion-note is slightly flat over the manubrium and inner end of first right interspace; over same area the tracheal breath sounds are more distinct than is normal, and a distinct shock is perceived with the closure of the aortic valves; but there is no bruit or visible pulsation. Expiration prolonged at right apex with occasional rhonchus. Tracheal sounds distinct over cervical spines and in supra spinous fossæ. Doubtful difference in pulses, right being perhaps rather fuller than left (probable normal difference). No difference in sphygmographic tracings. No laryngeal paralysis; urine normal.

There is in this case obstruction and probably occlusion of the superior vena cava above the entrance of the vena azygos. The blood from the left arm is probably carried partly by the larger vessel seen in the episternal notch and partly by a communication which has been established with the vena azygos by an anastomosis between the subclavian and superior intercostal veins.

The evidence is not sufficient to allow of a positive opinion being given as to the cause of the obstruction.

The duration of the symptoms renders it almost impossible that it can be due to a malignant growth in the mediastinum. It may be due to thrombosis of the vessel consequent on some inflammatory change in the anterior mediastinum, but of this there is no evidence. The condition which would best explain the symptoms is an aneurysm of the ascending aorta which has undergone spontaneous cure, and in contracting has pro-

duced occlusion of the superior cava. The paralytic attack may have been caused by a portion of the clot becoming detached and lodging in the left Sylvian artery.

VI.—*Lymphatic Disease of the Right Arm.* By Robert William Parker. *Exhibited February* 23, 1883.

MINNIE W—, æt. 8 years, a well-grown girl for her age, has an irregular, somewhat sacculated enlargement on the front and inner aspects of the right upper limb, commencing about the middle of the forearm, and running upwards as far as the supra-clavicular space of the neck. Its appearance suggests a tortuous and distended vessel. The skin over these swellings is adherent, it is not puckered or red, or thickened in any way where the sacculi—about the size of hazel nuts—are most marked; on the contrary, it is somewhat more than usually thin and transparent, as though distended by fluid.

The measurements of the arm are: 2 inches below the elbow, $8\frac{1}{4}$ inches as compared with 7 inches on the sound side; 2 inches above the elbow, $8\frac{6}{8}$ as against $7\frac{1}{8}$ inches; and at the insertion of the deltoid muscle $7\frac{1}{8}$ inches as against $6\frac{7}{8}$ at the corresponding point of the other limb.

The general appearance of the arm, its knotty feel when handled, its freedom from œdema and the natural size of the blood-vessels, the absence of pain or tenderness, strongly suggest a congenital origin for this condition, and induce one to regard it as of the same nature as the congenital cystic hygroma of the neck, now generally believed to be lymphatic in its origin.

Careful questioning, however, failed to elicit any facts pointing to a congenital origin. The swelling was first noticed about four years ago, when it appeared quite suddenly two or three weeks after a mild attack of scarlet fever. The swelling subsided, in part, almost as suddenly as it had appeared. It has reappeared with more or less severity about every four months since.

The girl first came under my observation on November 29, 1882, at the East London Hospital for Children. The whole of the forearm and arm were then red and inflamed; the elbow- and shoulder-joints were spasmodically fixed, and could

not be moved without causing great pain. The cystic swellings were much larger than at present, fluctuated, and would have been mistaken for abscesses, had not the foregoing history been obtained. Rest in bed, mild saline purgatives, and evaporating lead lotion were ordered. The temperature ranged from 99° F. to 101° F. The inflammation quickly subsided.

There is no increase in the relative number of the white corpuscles. Since showing the child to the Society I have aspirated two of the cystic swellings; a little thick, dark, rusty, blood-stained fluid was got out; some iodo-glycerine solution was then injected. The condition, however, was not permanently altered by this treatment. The child's general health is excellent.

VII.—*Congenital Dislocation of the Hips.* By R. W. Parker. *Exhibited February* 23, 1883.

Ellen A—, æt. 8. The child is fairly nourished and rather tall for her age. She was brought to the East London Hospital for Children on account of her peculiar gait, and to see whether anything could be done for it. This peculiarity consists in a "balancement latéral," a very pronounced waddle, which is characteristic of the deformity.

On examination, the large size and prominence of the nates and trochanteric regions, giving to the pelvis a rather ungainly look, were striking; as was also the lordosis. The head of the femur can be indistinctly felt on the dorsum ilii close to the crest. It is on a higher level than the anterior superior spine of the ilium. The great trochanters are prominent and situated at a point much above their ordinary level. The trochanters cannot be drawn down on making traction on the leg, the child being recumbent. In all other respects the lower limbs are well developed.

The child can walk well, she does not appear to tire sooner than another child of the same age. The deformity was not detected until she was two years of age.

VIII.—*Case of Unusual Hardness of the Ears.* By Dyce Duckworth, M.D. *Exhibited March* 9, 1883.

J. C., æt. 46, a lead-worker, formerly a brewer's labourer, came to St. Bartholomew's Hospital July, 1882, complaining of symptoms due to lead impregnation. He had a well-marked blue line along the gums. He was the subject of gout, his first attack having occurred at the age of thirty. Formerly he had drank freely of beer.

Uratic tophi were found in each ear, and further examination showed that the ears were of extraordinary hardness. He stated that this had always been the case, and that his ears were never like those of other people. In each ear, in the anti-helix, was observed a thin hard lamina which felt as if ossified. It was curved in the fossa of the helix, reminding one of a turbinated bone, and the induration was more marked in the left ear. The costal cartilages appeared to be ossified. The arteries were not unduly hard. The urine was void of albumen.

A second case came under my observation, also in a gouty man, æt. 65, in which several hardened masses were found in each ear. Dr. Barlow informs me that he has also seen two similar instances, both in gouty men.

IX.—*Sub-Periosteal Amputation at the Hip-joint.* By A. E. Barker. *Exhibited April* 13, 1883.

A PATIENT, æt. 28, on whom Mr. Barker had performed this operation in February, 1881. The details of the case had been already published in the *British Medical Journal* of January, 1883. The patient had had a compound comminuted fracture above the knee which soon commenced to suppurate profusely. He then caught erysipelas and after that went through a well-marked pyæmic attack, which destroyed the right elbow-joint and gave rise to superficial abscesses over other joints, being reduced to the last stage of exhaustion by these complications lasting for some months. Mr. Barker removed the limb at the junction of the lower and middle third. From this operation he recovered rapidly and began to gain

flesh almost at once. Then a second fracture through the neck, down to which a sinus ran from the trochanteric region, was found to be the seat of free suppuration, which after some weeks produced much œdema about the groin. On exploration it was found to reach into the joint through the neck and trochanter and to be comminuted. Mr. Barker then made an incision on the outer aspect of the thigh from the trochanter downwards, and dissected out through this the fragments about the joint together with the remainder of the shaft of the femur from the first amputation line upwards. This latter part of the bone was almost healthy, being only a little congested. It was removed without much trouble subperiosteally. The joint and wound were drained carefully and the patient made an excellent recovery. The condition of the stump now exhibits well the advantages of this method. It is long and possesses a firm central core probably fibrous. Into this the muscles are inserted, and turn, flex, and extend it in every direction with remarkable power, so that he is able to move an artificial limb and walk without necessarily swinging the pelvis so much as is usual with the ordinary amputation at the joint.

X.—*Congenital Deficiency of Femur.* By John H. Morgan. *Exhibited May* 11, 1883.

THE father and mother of this child are quite healthy, and there is no history of any congenital deformity in the members of either family. This is the first child and is in other respects a healthy boy, now six months old. The labour was natural and was not prolonged, no force or instruments being used. There has been no accident since birth.

The right lower limb is natural and well developed. The left leg below the knee is perfectly natural and corresponding in size, shape, length, and development to the same parts in the opposite limb. It is said, and appears, to have grown at a ratio proportionate to that of the sound limb. It is doubtful if there is any bony structure in the site of the femur on the left side, but a short, thick mass of muscles connects the pelvis with the leg. No trochanter can be distinguished, and the articulation of the knee cannot be definitely made out. No patella can be felt.

Measurement is not reliable on account of the fatness of the child and the alteration under various movements. But roughly the difference between the right and left thigh, measuring from the anterior superior spine to the top of the tibia is: right 4½ inches, left 2¼ inches. The pelvis appears symmetrical and in no respect deficient. There is considerable movement of the limb as a whole.

XI.—*A Case of Myxœdema in a Male.* By Stephen Mackenzie, M.D. *Exhibited May* 11, 1883.

GEORGE KEMSLEY, æt. 51, seaman, was admitted into the London Hospital, April 21, 1883, with myxœdema. His parents were healthy, the father was killed by an accident, and the mother lived to eighty-one years of age. Of three sisters two have died, one suffered from "fits," the other from dropsy.

Patient was born in Kent, and from the age of seventeen has been a sailor. He married when twenty-seven and there have been three children, who are healthy. His health has been good (with the exception of one attack of small-pox and dysentery) until five years ago, when he suffered with facial erysipelas. About this time his limbs swelled, and he says that since then the swelling has not quite disappeared at any time. During the first three years of this period the amount of swelling varied, and he was quite active and able to do a seaman's work. Two years ago his legs and arms became so stiff that he was obliged to give up work and for a short time was an inmate of Greenwich Hospital, where also at that time the diagnosis of myxœdema was made by Dr. Carrington. Since then he has continued to work till within two months of his admission.

The patient has brown hair and irides, and his face presents a heavy, dull appearance; there is a red flush on each cheek, the surrounding cutaneous surface and that of the forehead having a yellowish tinge. Face is considerably swollen, upper and lower eyelids are puffy and transversely wrinkled, and there is marked thickening of the lips and alæ of the nose. The trunk and limbs generally are swollen, but nowhere, except on the legs, is there pitting on pressure.

Though the hands are much swollen, yet their natural contour is preserved; and they are not distinctly "spade-like,"

but a little clumsy looking. The skin of the trunk and thighs seems to be in a natural condition, there being no abnormal roughness or dryness noticeable, but that of the upper extremities and legs is dry and rough, especially on the extensor aspect of the forearms and hands. His hair has been gradually getting thinner, and at the same time crisp and wiry. The thyroid gland seems atrophied. A large number of the patient's teeth have fallen out during the last eighteen months, and of those which remain the greater number are loose. When questioned he complains of no bad taste in his mouth or unpleasant smell.

His pulse, which is weak and easily compressed, varies between 48 and 80 per minute, and from a sphygmographic tracing taken there was no evidence of increased arterial tension. Heart sounds feeble but normal in character. Respirations 16 per minute.

Patient is an intelligent man, but answers questions tardily and with a slow and syllabic articulation. He says his memory is good but he has to reflect for some time before he can recall the events of the past.

He complains that of late his hands have become readily numb. He can distinguish a pin from a needle, and when pricked on the finger, about one second elapses before he says that he feels it. With the æsthesiometer he can distinguish two points $\frac{1}{10}$ in. apart on the tongue, $\frac{1}{3}$ in. on the finger, $1\frac{1}{2}$ in. on the back of the forearm, and 1 in. on the back of the leg.

He states that he has lost muscular power and activity, and that he takes much longer to do things than he formerly did. His gait is slow and swaggering, his whole body being shaken each time he comes down upon his foot. There is some pitting on pressure in the legs but this with rest disappears. Knee-jerks are present, but response to tap is somewhat delayed. There is no ankle clonus.

Excursions of the eyeballs are good, he reads No. 5 Nettleship's test types with either eye, and no changes are observed in the fundi.

The calves of his legs are unusually large and firm, measuring $16\frac{1}{2}$ and 17 inches in circumference. The quantity of urine passed varies from 20 to 40 ounces, it is of a straw colour, generally acid, 1010 to 1023 specific gravity, 1·6 per cent. of urea. There is no albumen on boiling with the subsequent addition of nitric acid, but picric acid gives a slight cloudiness which does not disappear on boiling. Temperature has been slightly subnormal throughout.

XII.—*Sclerema Neonatorum.* By Thomas Barlow, M.D. *Exhibited May* 11, 1883.

A. H., a male child, was brought to my out-patient room at University Hospital on account of its skin and general feebleness.

There had been great difficulty in getting the child to cry well after it was born, and for the first two days it was so feeble and quiet that it was not expected to live.

On the third day, when the child was washed, it was noticed that the back, shoulders, and one thigh were very red and hard. The infant was brought to me when it was nine days old (April 9, 1883). It was certainly rather a feeble child, but I failed to find any sign of congenital heart trouble, and I was unable to prove the existence of any atelectasis.

Over the greater part of the back, and spreading on to the back of the shoulders, there was a bluish-red discoloration which corresponded with a brawny induration very markedly raised above the level of the adjacent skin. It was not hot to the feel, and it did not pit. There was an area presenting similar characters on the back of the right thigh just below the gluteal fold. There was no glandular enlargement. On the front of the body there was a slight brawny desquamation in no way differing from what is commonly seen in young infants. I regret that I did not take the child's temperature.

Three days later (April 12) the swelling on the back had extended downwards. There was also some swelling in front of the right arm. Two or three small pustules had appeared on the scalp.

On April 20 (eight days later) the child seemed much brighter, and was said to rest better. A few more small pustules had appeared on the scalp which I had punctured, and which gave no further trouble. The swelling had certainly extended down the back, and involved especially the nates and upper third of each thigh spreading round to the front. The anus seemed to be in a deep pit between the hard brawny walls of the folds of the nates. The colour was about the same as before. The shoulders were both brawny. There was no trouble with the umbilical cord, which separated in a perfectly healthy way. The child took the breast well.

May 7.—The back swelling was slowly clearing up from above downwards.

May 11.—To-day there is still considerable thickening on

each side the anus, and on the upper part of each thigh and on the shoulders. The colour is much fainter than before. On feeling carefully over the back some islets of brawny induration can be detected. There is no desquamation and no glandular enlargement. The child seems pretty well otherwise. He is making flesh.

Several cases of generalised sclerema or scleroderma in older children have been recorded, and it is noteworthy that in them the prognosis is much more favorable than in adults. But isolated cases of sclerema neonatorum are very rare in London. I do not think I have seen more than four or five altogether before this one and, excepting, perhaps, one which I lost sight of, they were all fatal.

This child is, I think, on the fair way for recovery. It seems possible enough that he had at first some of the pulmonary difficulty on which some writers have insisted in the description of these cases, but upon that relationship I should not like to offer any opinion. He has had only small doses of cod-liver oil, and camphor and oil inunction by way of treatment.

One obvious difference between the sclerema of the new born and sclerema of older children has not been sufficiently noticed in accounts of the disease; viz. that the colour of the patches in the former is bluish-red or of a deep copper tint, whilst in the latter either the colour does not differ from the healthy skin or is of a whitish tallowy character.

Note (August 31, 1883).—The child is now quite well with the exception of one or two minute flattish indurations under the skin of the middle of the back.

XIII.—*Cases of Myxœdema.* By John R. Lunn, *Exhibited May* 25, 1883.

CASE 1.—A female, A. W., æt. 69, born in Ireland though has lived all her life in London. Father and mother both dead, cause unknown, one brother in America. Family history good, no history of fright or syphilis.

She has been married forty years. Has had seven children, all died young (cause unknown) except two who are both healthy; has had one miscarriage between the third and fourth

child. Always had good health and a hard worker; has been in the present condition twelve years; suffers a good deal in the cold weather. Her skin always dry and harsh, never perspires. Eyelids puffy, flattened nose, thickened lips. Teeth fairly good, rather deaf, sight good. A few scattered moles on her face, no hair on pubes or axillæ, a little downy hair on each side of the head. Her movements are slow.

Patellar reflex absent; no anæsthesia; legs get puffy, but no distinct pitting on pressure. No thyroid body to be felt; supraclavicular regions puffy. Temperature 95° F., passes 26 to 40 ounces of urine in the twenty-four hours on the average. Has horrid dreams at night; thinks she sees her sister's head before her flying about in the air.

The interesting points in this case are, that she was brought into the Marylebone Infirmary by the police as drunk, but she apparently was in a sort of a fit and in a starved condition, though had had a glass of brandy and water. Her urine when admitted contained albumen, but has subsequently become normal.

Case 2.—This case (Plate V, fig. 3) I showed to the Clinical Society in December, 1881, and the notes of the case are in vol. xv, page 84, of the "Clinical Transactions."

I have brought down the case this evening on account of the growth of hair on his head, face, and pubes, which was nearly absent when I showed him before. Since October, 1882, he perspires generally on his forehead after his dinner and after a pipe, which he never used to do. His urine remains the same and contains no albumen. He weighs 17 stone 7 lbs., and gets very drowsy in the cold weather and is confined to his bed. He has had no more delusions. I have applied dilute acetic acid to his head which seemed to have had some influence in the growth of his hair. His movements of locomotion are still very slow.

XIV.—*Peculiar Deformity of Hands, &c., most probably of Rheumatic Origin.* By J. R. Lunn. *Exhibited May* 25, 1883.

William H., æt. 53, single, admitted into St. Marylebone Infirmary, February 17, 1882.

Family history good; has never been laid up with any serious illness until ten years ago, when he met with an accident to his right foot, and his big toe was amputated at University Hospital by Mr. Erichsen. Three days after leaving the hospital he began to have rheumatic pains in both shoulders and wrist-joints, and was laid up two months at home and confined to his bed. He then went to Margate for about one month, and before going there he says he noticed his present condition of shoulders and wrists, which he attributes to the loss of his right big toe.

Present condition.—A well-nourished man. Both wrists apparently dislocated forwards, with the lower ends of radius and ulnar projecting on the dorsum of the carpal bones, and the first phalanx of the left thumb dislocated forwards on the metacarpal bone which is also bent backwards on the trapezium. The terminal phalanges and nails of right hand apparently atrophied. The same dislocation occurs on the right hand. The deltoid muscle over the left shoulder-joint atrophied. He cannot raise his left arm beyond level of the shoulder or touch the back of his head. Right arm he can raise fairly well. Both acromial ends of clavicle can apparently be dislocated. Both shoulder-joints grate when rotated as if the heads of the bone were bare and not covered with cartilage. No chest symptoms; urine normal.

N.B.—Since the above notes were made the patient has become very stout, and all the dislocations are not to be made out so well.

INDEX.

PAGE

Abdominal Section in three cases of intussusception (R. J. Godlee) 55
——— in a case of intussusception (W. Haward) 72
Abscess, cerebral, meningitis or pyæmia originating in disease of the Ear (W. R. Dalby) 193
——— retro-pharyngeal, bursting of, after application of ligature, in a case of hæmorrhage following scarlet fever (A. J. Pepper) 21
Adams (James E.), lumbar nephrectomy for Medullary Carcinoma of the kidney 48
Amputation, sub-periosteal, at the hip-joint (A. E. Barker) . . 258
——— at the hip-joint, sub-periosteal, formation of new bone in the stump, moveable stump, &c. (Jas. Shuter). 86
——— of thigh in a case of epithelioma on an old cicatrix (Geo. Lawson) 239
——— Symes's operation, in a case of Tetanus following laceration of toes, recovery (H. Marsh) 134
Aneurism of both popliteal arteries in a case of excision of tonsil, &c., for epithelioma (R. C. Lucas) 14
Aphonia, with hæmorrhage, in a case of scarlet fever (A. J. Pepper) 21
Arm, right, Lymphatic disease of (R. W. Parker) 256
Arteries, popliteal, Aneurism of both, in a case of excision of tonsil, &c., for epithelioma (R. C. Lucas) 14
Artery, left common carotid, ligature of, in severe bleeding after scarlet fever (A. J. Pepper) 21
Arthropathy, tabetic, case in which the tarsal bones of both feet were involved (H. W. Page) 158
Artificial limb, see *Shuter*, amputation at hip-joint.
Asphyxia, local, with symmetrical gangrene, case of [Raynaud's disease] (Reg. Southey) 167
——— ——— notices of other cases of (Reg. Southey) . . 174—9
——— ——— with symmetrical gangrene, three cases (Thos. Barlow) 179

PAGE

BARKER (Arthur E.), small Goitre, producing great difficulty of breathing on exertion, excision, recovery 207
——— sebaceous or dermoid cyst of the tongue, removal by submental incision, cure 215
——— sub-periosteal amputation at the hip-joint [described by card] 258
BARLOW (Thomas), three cases of Raynaud's disease [local asphyxia and symmetrical gangrene] 179
——— sclerema neonatorum [described by card] 262
BARWELL (Richard), on removing large portions of the upper Lip without deforming the face 165
Bilharzia hæmatobia, case of hæmaturia from (H. R. Crocker) . 25
BIRD (G.), see *Golding-Bird.*
Bleeding, see *Hæmorrhage.*
Bone, frontal, acute necrosis of right orbital plate of, giving rise to thrombosis in longitudinal sinus, &c. (D. R. Pearson) . 122
——— new, formation of, in stump, after sub-periosteal amputation at hip-joint (Jas. Shuter) 86
Bones, see *Tarsal bones.*
Borax and boracic acid, cases of Diphtheria treated by local application of (J. F. Goodhart) 38
Brain, description of, in a case of nystagmus infantilis (A. Money) 204
Breathing, great difficulty of, produced by small goitre, excision of the latter, recovery (A. E. Barker) 207
BROADBENT (W. H.), on a case of supposed Hydrophobia treated by chloral, which recovered 100
——— ——— appendix of three other cases 104

Cancer, medullary, of the kidney, lumbar nephrectomy for (Jas. E. Adams) 48
Carcinoma, medullary, of the kidney, lumbar nephrectomy for (Jas. E. Adams) 48
CAVAFY (John), symmetrical congestive mottling of the skin . 43
Chloral in treatment of a case of supposed hydrophobia, which recovered (W. H. Broadbent) 100
Chloral hydrate and morphia, case of tetanus treated by, fatal termination (W. Spencer Watson) 130
Cicatrices, see *Epithelioma* on.
Clavicle, spontaneous dislocation of (S. D. Clippingdale) . . 247
——— separation of the epiphysis of, by muscular action (Chr. Heath) 37

PAGE

Climate at high altitudes, treatment of cases of Phthisis by residence in a (C. T. Williams) 1

CLIPPINGDALE (S. D.), spontaneous dislocation of clavicle [described by card] 247

CLUTTON (H. H.), two cases of spina bifida treated by Glycero-iodine injection 34

——— case of Spondylitis deformans 232

COXWELL (C. F.), child with symptoms resembling those of Myxœdema 75

CROCKER (H. Radcliffe), case of hæmaturia from Bilharzia hæmatobia 25

——— case of Nodes on the forehead from congenital syphilis, in a girl 241

CROFT (John), *Report* on Jas. Shuter's case of Subperiosteal amputation at the hip-joint 88

Curvature, see *Spine.*

Cyst, sebaceous or dermoid, of tongue, removed by submental incision; cure (A. E. Barker) 215

DALBY (W. B.), examples of two classes of cases in which cerebral abscess, meningitis, or pyæmia originate in disease of the ear 193

DAVIES-COLLEY (J. N. C.), case of enormous enlargement of the lower Lip cured by operation 79

Deformity of hands, peculiar, probably of rheumatic origin (J. R. Lunn) 265

Dermoid cyst, see *Cyst.*

Diphtheria, cases of, treated by local application of borax and boracic acid (J. F. Goodhart) 38

Dislocation, spontaneous, of clavicle (S. D. Clippingdale) . . 247

——— congenital, of the hips (R. W. Parker) 257

——— forward of the Ulna, and fracture of the radius; removal of lower end of ulna, &c. (R. J. Godlee) 120

DUCKWORTH (Dyce), two cases of subcutaneous Rheumatic nodules 52

——— case of rheumatismal, cutaneous, subcutaneous, and periosteal nodules, probably syphilitic taint 190

——— *Report* on W. J. Tyson's case of tubercular Leprosy . 164

——— unusual hardness of the ears [described by card] . . 258

Ear, disease of the; cerebral abscess, meningitis, or pyæmia originating in (W. B. Dalby) 193

Ears, unusual hardness of (D. Duckworth) 258

PAGE
Enlargement, enormous, of lower lip, cured by operation (J. N. C. Davies-Colley) 79
Enteric Fever, two cases, accompanied by an erythematous eruption resembling scarlatina (T. Whipham) 150
——— extracts from various authors on its connection with scarlatina (T. Whipham) . . . . . 155—7
Epiphysis of the clavicle, separation of, by muscular action (Chr. Heath) 37
Epithelioma, excision of tonsil for (C. H. Golding-Bird) . . . 9
——— excision of right tonsil, base of tongue, and part of soft palate for (R. C. Lucas) 14
——— occurring on tight cicatrices, two cases (Geo. Lawson) . 238
——— large, growing from cicatrix which united the eyelids to the eye, excision, no recurrence (Geo. Lawson) . . . 238
——— large, of the thigh, occurring on an old cicatrix, amputation, no recurrence (Geo. Lawson) 239
Erythematous eruption, in two cases of enteric fever, resembling scarlatina (T. Whipham) 150
Excision of the knee, transpatellar, case of (C. H. Golding-Bird) 82
——— of dermoid cyst of tongue, cure (A. E. Barker) . . . 215
——— of small goitre, recovery (A. E. Barker) 207
——— of the tonsil for epithelioma (C. H. Golding-Bird) . . 9
——— of right tonsil, base of tongue, and part of soft palate for epithelioma (R. C. Lucas) 14
——— see *Epithelioma.*
Extirpation of uterus for fibroid disease, death on the fourth day (C. H. Golding-Bird) 28
Eyelids, large epithelioma, growing from cicatrix, excision, no recurrence (G. Lawson) 238

Face, on removing large portions of upper lip without deforming (R. Barwell) 165
Femur, congenital deficiency of (John H. Morgan) 259
Fever, see *Enteric Fever, Scarlet Fever.*
Fibroid disease of uterus, extirpation, death on the fourth day (C. H. Golding-Bird) 28
Forehead, nodes on, from congenital syphilis (H. R. Crocker) . 241
Foreign bodies, see *Pin* in larynx.
Fowler (J. Kingston), two cases of pseudo-hypertrophic muscular Paralysis in adults (brothers) 112
——— obstruction of the superior Vena cava [described by card] 254

PAGE

Fracture of the Radius, and dislocation forward of the Ulna (R. J. Godlee) 120

Gangrene in a case of contused wound of thigh in a young child; death (R. W. Parker) 126
——— symmetrical, in a case of local asphyxia [Raynaud's disease] (Reg. Southey) 167
Glycero-iodine injection, two cases of spina bifida treated by (H. H. Clutton) 34
Godlee (Rickman J.), three cases of Intussusception treated by abdominal section 55
——— fracture of the Radius and dislocation forward of the Ulna in front of the wrist; lower end of latter bone removed to effect reduction 120
——— cases of Stretching of the facial nerve, for tic convulsif (with table) 220
Goitre, small, producing great difficulty of breathing on exertion; excision; recovery (A. E. Barker) 207
Golding-Bird (C. Hilton), case of Excision of the tonsil for epithelioma (from report of W. H. Moore) 9
——— extirpation of the Uterus for fibroid disease; death on the fourth day 28
——— case of transpatellar Excision of the knee 82
Goodhart (J. F.), cases of Diphtheria treated by the local application of borax and boracic acid 38
——— diffused Scleroderma [described by card] 249
Green (T. Henry), pseudo-hypertrophic muscular Paralysis in an adult [described by card] 247
Gunshot injury of the lower jaw (W. J. Walsham) 17

Habershon (S. O.), ulceration at the Pylorus; perforation; death from peritonitis; pain at the stomach not aggravated but often relieved by food 211
Hæmaturia, from Bilharzia hæmatobia (H. R. Crocker) . . . 25
Hands, peculiar deformity of, probably of rheumatic origin (J. R. Lunn) 265
Harley (John), extracts from his paper on the connection of Scarlatina and Enteric Fever [in 'Med. Chir. Trans.,' vol. lv] 155
Haward (Warrington), case of Intussusception for which abdominal section was performed 72
——— see *May* (B.).

PAGE

HEATH (Christopher), case of separation of the Epiphysis of the clavicle by muscular action 37
Hemiplegia, infantile, with unusual reflex phenomena (F. Taylor) 243
HIGGENS (Charles), see *Nettleship* and Higgens, case of Morphœa.
High altitudes, see *Climate* at.
Hip-joint, subperiosteal amputation at the (A. E. Barker) . . 258
——— ——— formation of new bone in the stump, &c. (Jas. Shuter) 86
Hips, congenital dislocation of (R. W. Parker) 257
Hoarseness and aphonia following scarlet fever (A. J. Pepper) . 21
HOPWOOD (E. O.), see *Pepper*, case of Scarlet Fever (report).
HOWSE (H. G.), case of Nephro-lithotomy showing the importance of examining from the anterior surface of the kidney in this operation 93
Hydrophobia, case of supposed, treated by chloral, which recovered (W. H. Broadbent) 100
——— appendix of three other cases (W. H. Broadbent) . . 104

Incision, submental, for removal of dermoid cyst of tongue; cure (A. E. Barker) 215
Inflation in the treatment of intussusception (F. Taylor) . . 64
Injury, gunshot, of the lower jaw (W. J. Walsham) . . . 17
Intestines, see *Intussusception.*
Intussusception, three cases of, treated by abdominal section (R. J. Godlee) 55
——— case of, treated by abdominal section (W. Haward) . . 72
——— three cases treated by inflation (F. Taylor) . . . 64

Jaw, lower, case of gunshot injury of (W. J. Walsham) . . 17
Joint, see *Hip, Knee.*

Kidney, medullary carcinoma of, lumbar nephrectomy for (Jas. E. Adams) 48
——— anterior surface of, importance of examining from, in nephro-lithotomy (H. G. Howse) 93
——— see *Nephro-lithotomy.*

Knee, transpatellar excision of (C. H. Golding Bird) . . . 82
Laceration, see *Toes.*
Larynx, pin impacted thirteen months in, and causing fixation of left crico-arytenoid articulation, removal by internal operation (F. Sémon) 138

PAGE

LAWSON (George), two cases of Epithelioma occurring on tight cicatrices 238
LEDIARD (Henry A.), case of Spondylitis deformans and commencing Osteitis deformans 235
LEE (R. J.), cases of Nystagmus infantilis 202
——— ——— partial description of brain and spinal cord in this case (A. Money) 204
Leg and thigh, contused wound of, in a young child, gangrene, death (R. W. Parker) 126
Leprosy, tubercular, case of (W. J. Tyson) 163
Lip, lower, enormous enlargement of, cured by operation (J. N. C. Davies-Colley) 79
——— upper, on removing large portions of, without deforming the face (R. Barwell) 165
Lithotomy, nephro-, case of (Bennett May) 90
——— ——— case of, showing the importance of examining from the anterior surface of the kidney in the operation (H. G. Howse) 93
LUCAS (R. Clement), excision of right tonsil, base of the tongue, and part of soft palate for Epithelioma; aneurism of both popliteal arteries 14
——— *Report* on James Shuter's case of subperiosteal amputation at the hip-joint 88
LUNN (John R.), cases of Myxœdema [described by card] . . 263
——— peculiar deformity of hands, &c., most probably of rheumatic origin [described by card] 265
Lymphatic disease of right arm (R. W. Parker) 256

MACKENZIE (Stephen), case of subcutaneous Nodules occurring in a patient the subject of syphilis, and with indefinite connections with rheumatism 188
——— Myxœdema in a male [described by card] 260
MAHOMED (F. A.), see *Pepper*, case of Scarlet Fever (remarks).
MARSH (Howard), Tetanus following laceration of the toes and lasting forty-two days, Symes' amputation, recovery . . 134
——— *Report* on James Shuter's case of subperiosteal amputation at the hip-joint. 88
MAY (Bennett) *per Warrington Haward*, case of Nephro-lithotomy 90
Mechanical supports, treatment of lateral curvature of Spine without use of (B. Roth) 144
Meningitis, &c., originating in disease of the ear (W. B. Dalby) . 193
MONEY (Angel), description of brain and spinal cord in R. J. Lee's case of Nystagmus infantilis 204

PAGE

MOORE (W. H.) see *Golding-Bird*, excision of tonsil (*report*).
MORGAN (JOHN H.), congenital deficiency of the femur [described by card] 259
Morphia and chloral hydrate, case of Tetanus treated by, fatal termination (W. Spencer Watson) 130
Morphœa in region of the fifth nerve with paralysis of the intra-ocular branches of the third (E. Nettleship and C. Higgens) . 199
Mottling, symmetrical congestive, of the skin (John Cavafy) . 43
Muscles, see *Paralysis* (Muscular).
Muscular action, separation of the epiphysis of the clavicle by (Christopher Heath) 37
Myxœdema, cases of (J. R. Lunn) 263
——— in a male (Stephen Mackenzie) 260
——— child with symptoms resembling (C. F. Coxwell) . . 75

Necrosis, acute, of the right orbital plate of the frontal bone giving rise to thrombosis in longitudinal sinus, &c. (D. R. Pearson) 122
Nephrectomy, lumbar, for medullary carcinoma of the kidney (James E. Adams) 48
Nephro-lithotomy, case of (Bennett May) 90
——— case of, showing the importance of examining from the anterior surface of the kidney in this operation (H. G. Howse) 93
Nerve, facial, cases of stretching of (R. J. Godlee) 220
——— third, paralysis of the intra-ocular branches of, in a case of morphœa in the fifth nerve (E. Nettleship and C. Higgens) . 199
——— fifth, morphœa in region of, with paralysis of the intra-ocular branches of the third (E. Nettleship and C. Higgens) . 199
Nerves, unusual reflex phenomena, in infantile hemiplegia (F. Taylor) 243
NETTLESHIP (E.) and Charles HIGGENS, case of Morphœa in the region of first and second division of the fifth nerve with paralysis of the intra-ocular branches of the third nerve . 199
Nodes on the forehead from congenital syphilis, in a girl (H. R. Crocker) 241
Nodules, subcutaneous, on a patient the subject of syphilis, with indefinite connection with rheumatism (Stephen Mackenzie) . 188
——— subcutaneous rheumatic, two cases (Dyce Duckworth) . 52
——— rheumatismal cutaneous, subcutaneous, and periosteal, probably syphilitic (D. Duckworth) 190
Nystagmus infantilis, cases of (R. J. Lee) 202

Obstruction of superior vena cava (J. K. Fowler) 254

PAGE

Orbital plate, right, of frontal bone, acute necrosis of (D. R. Pearson) 122
Osteitis deformans, commencing (H. A. Lediard) 235

PAGE (Herbert W.), case of tabetic Arthropathy in which the tarsal bones of both feet were involved 158
Palate, soft, excision of part of, and of tonsil, &c., for epithelioma (R. C. Lucas) 14
Paralysis, pseudo-hypertrophic muscular, in an adult (T. H. Green) 247
——— ——— two cases in adults (brothers) (J. K. Fowler) . . 112
PARKER (Robt. Wm.), contused wound of the thigh and leg in a young child; gangrene of the limb and death 126
——— lymphatic disease of the right arm [described by card] . 256
——— congenital dislocation of the hips [described by card] . 257
PEARSON (David R.), acute Necrosis of the right orbital plate of the frontal bone, giving rise to Thrombosis in frontal end of the longitudinal sinus, and with cavernous sinus and ophthalmic vein 122
PEPPER (A. J.), Scarlet Fever: secondary sorethroat, severe bleeding, and ligature of left common carotid, hoarseness and aphonia on same day as hæmorrhage, bursting of retro-pharyngeal abscess after ligature, recovery with fixation of left vocal cord (with remarks by F. A. Mahomed and report by E. O. Hopwood) 21
Peritonitis, death from, in a case of ulceration at pylorus with perforation (S. O. Habershon) 211
Phthisis, cases of, treated by residence at high altitudes (C. T. Williams) 1
Pin impacted thirteen months in larynx, removal by internal operation (F. Semon) 138
Pseudo-hypertrophic muscular paralysis, see *Paralysis.*
Pyæmia originating in disease of the ear (W. B. Dalby) . . 193
Pylorus, ulceration at, perforation, death from peritonitis (S. O. Habershon) 211

Radius, fracture of, and dislocation forward of ulna (R. J. Godlee) 120
Raynaud's disease, three cases of (Thos. Barlow) 179
——— see *Asphyxia* (local).
Report of Sub-Committee on Mr. Shuter's case of subperiosteal amputation of the lower limb at the hip-joint (J. Croft, H. Marsh, R. Clement Lucas, Jas. Shuter) 88

PAGE

Report of Committee on Dr. Tyson's case of tubercular Leprosy (Reginald Southey, Dyce Duckworth, and George Thin) . 164
Rheumatic nodules, subcutaneous, two cases (Dyce Duckworth) . 52
——— ——— cutaneous, subcutaneous, and periosteal, probably syphilitic (Dyce Duckworth) 190
Rheumatism, indefinite connection with, of subcutaneous nodules in a case of syphilis (Stephen Mackenzie) 188
——— deformity of hands probably of rheumatic origin (J. R. Lunn) 265
ROTH (Bernard), case of lateral curvature of the Spine; treatment without use of mechanical supports 144

Scarlatina, erythematous eruption in enteric fever resembling (T. Whipham) 150
Scarlet fever, with secondary sorethroat and bleeding, ligature of left common carotid, aphonia, &c. (A. J. Pepper) . . . 21
Sclerema neonatorum (T. Barlow) 262
Scleroderma, diffused (J. F. Goodhart) 249
——— acute diffused (S. West) 252
Section, abdominal, in a case of intussusception (W. Haward) . 72
——— ——— in three cases of intussusception (R. J. Godlee) . 55
SEMON (Felix), removal by internal operation, from the larynx of a boy, æt. 13, of a pin impacted thirteen months, and causing fixation of left crico-arytenoid articulation 138
SHUTER (James), subperiosteal amputation at the hip-joint, formation of new bone in the stump, moveable stump, patient wearing an artificial limb 86
——— *Report* on ditto by Sub-Committee (J. Croft, H. Marsh, R. Clement Lucas, and Jas. Shuter) 88
Skin, symmetrical congestive mottling of (John Cavafy) . . 43
Sorethroat, secondary, on fifty-fourth day after scarlet fever, bleeding aphonia, &c. (A. J. Pepper) 21
SOUTHEY (Reginald), case of local Asphyxia; symmetrical gangrene [Reynaud's disease] 167
——— *Report* on W. J. Tyson's case of tubercular Leprosy . . 164
Spina bifida, two cases of, treated by glycero-iodine injection (H. H. Clutton) 34
Spinal cord, description of, in a case of Nystagmus infantilis (A. Money) 204
Spine, lateral curvature of, treated without use of mechanical supports (B. Roth) 144

PAGE
Spondilitis deformans, case of (H. H. Clutton) 232
——— and commencing osteitis deformans (H. A. Lediard) . . 235
Stomach, pain at, not aggravated by food in a fatal case of ulceration at pylorus (S. O. Habershon) 211
Stretching of the facial nerve, cases of, for tic convulsif (with table) (R. J. Godlee) 220
Stump at hip-joint moveable, with formation of new bone, after subperiosteal amputation (Jas. Shuter) 86
Syphilis, congenital, nodes on the forehead from (H. R. Crocker) . 241
——— subcutaneous nodules in a patient the subject of, with indefinite connection with rheumatism (Stephen Mackenzie) . 188
——— see *Nodules* (rheumatismal).

Tabetic arthropathy, case in which the tarsal bones of both feet were involved (H. W. Page) 158
Tarsal bones of both feet involved in a case of tabetic arthropathy (H. W. Page) 158
TAYLOR (Frederick), three cases of Intussusception treated by inflation 64
——— case of infantile Hemiplegia with unusual reflex phenomena 243
Tetanus, case treated by chloral hydrate and morphia, fatal termination (W. Spencer Watson) 130
——— following laceration of the toes, lasting forty-two days, Symes' amputation, recovery (H. Marsh) 134
Thigh, large epithelioma of, on an old cicatrix, amputation (Geo. Lawson) 239
Thigh and Leg, contused wound of, in a young child, gangrene, death (R. W. Parker) 126
THIN (George), *Report* on W. J. Tyson's case of tubercular Leprosy 164
Thrombosis in frontal end of the longitudinal sinus following acute necrosis of frontal bone (D. R. Pearson) 122
Tic convulsif, table of cases of, treated by stretching the facial nerve (R. J. Godlee) 227
Toes, laceration of, followed by Tetanus, lasting forty-two days, Symes' amputation, recovery (H. Marsh) 134
Tongue, base of, soft palate, &c., excision of, for epithelioma (R. C. Lucas) 14
——— sebaceous or dermoid cyst of, removal by submental incision, cure (A. E. Barker) 215
Tonsil, excision of, for epithelioma (C. H. Golding-Bird) . . 9
——— right, tongue, &c., excision of, for epithelioma (R. C. Lucas) 14

PAGE

Tubercular leprosy, see *Leprosy.*
TYSON (W. J.), case of Lepra tuberculosa 163
—— *Report* on ditto (Reginald Southey, Dyce Duckworth, and George Thin) 164

Ulceration at pylorus, perforation, death from peritonitis, pain at stomach not aggravated by food (S. O. Habershon) . . 211
Ulna, dislocation forward of the, and fracture of the radius, removal of the lower end of the ulna, &c. (R. J. Godlee) . . 120
Uterus, extirpation of, for fibroid disease, death on the fourth day (C. H. Golding-Bird) 28

Vena cava, superior, obstruction of (J. K. Fowler) 254

WALSHAM (W. J.), case of Gunshot injury of the lower Jaw . . 17
WATSON (W. Spencer), case of Tetanus, with fatal termination, treated by chloral hydrate and morphia 130
WEST (Samuel), acute diffused scleroderma [described by card] . 252
WHIPHAM (Thomas), two cases of Enteric Fever accompanied by an erythematous eruption resembling that of scarlatina . . 150
WILLIAMS (C. T.), cases of Phthisis treated by residence at high altitudes 1
Wound, contused, of the thigh and leg in a young child, gangrene of the limb and death (R. W. Parker) 126

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